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ORIGINAL ARTICLES.

THE TREATMENT OF FIBROID TUMORS OF THE UTERUS BY GALVANISM: WITH CASES.

Read in the Section on Obstetrics and Diseases of Women, at the Thirty-ninth Annual Meeting of the American Medical Association, Cincinnati, Ohio, May, 1888.

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Before this Section at the St. Louis meeting two years ago, I read a paper on the value of galvanism in gynecology, and among other cases reported three of fibroid tumor of the uterus treated by the method. In December of the same year, 1886, I read a paper before the Chicago Medical Society, describing Dr. Apostoli's method of treating these difficulties; and before the Section of Gynecology at the Ninth International Medical Congress, I read a paper on "A Method of Treatment of Fibroid Tumors of the Uterus by Apostoli's Method, based upon Exact Dosage;" and I now ask you to bear with me while I report a few cases of the many of fibroid tumors of the uterus treated by the latter method, which have come under my observation, and give you the benefit of conclusions arrived at as the result of this experience.

In the treatment of fibroid tumors of the uterus by Apostoli's method, I have made some changes in the way of electrodes and other apparatus. Instead of the inconvenient biscuit of clay used by Dr. Apostoli for the external electrode I employed the animal membrane abdominal electrode.¹ By the adoption of flexible intra-uterine electrodes I am able to do away almost entirely with the vaginal galvano-puncture of Apostoli's, and by a system of internal concentration a more exact system of dosage has been made possible. Of these internal flexible concentration electrodes I have confined myself so far to two sizes—one of an active surface of 2 sq. cm., the other of 4 sq. cm. The first of these, (the 2 sq. cm.), I have determined by experiment, requires a 50 milli-

ampère current; the second, (the 4 sq. cm.), requires a 100 ma. current, in order to get the characteristic effect over that extent of surface sufficient to check hæmorrhage. It can readily be understood how, with accurate adjustment of the electrodes a given effect can always be obtained with a given current, and by attacking different portions of the mucous membrane at different sittings, the characteristic effect of the current can be accomplished with greater certainty over all the surface, and with less discomfort to the patient, than when an electrode filling the entire canal is employed, the extent of surface disregarded, and the current simply regulated by the sensations of the patient. Then, too, these internal electrodes being constructed with a special idea of flexibility, renders it possible to reach the entire inner surface of any uterine canal, no matter how tortuous it may be, rendering it unnecessary in a greater number of cases to employ the more or less dangerous puncture. From Jan. 1, 1887 to Jan. 1, 1888, I applied galvanism in strong, accurately measured and definitely concentrated doses, in gynecological cases over 1,400 times. I employed it during this time to fibroids of the uterus 623 times in fifteen cases. The result was as follows:

Found not suitable for treatment and recommended for operation, 1; Benefited and still under treatment, 4; Absolutely cured, 5; Symptomatically cured, 5.

Case 1.—Diagnosis: large, painful, hæmorrhagic, interstitial and subperitoneal fibroid tumor, filling the pelvis and extending nearly to umbilicus. Treatment: A large number of applications of galvanism, given by three different methods of procedure, extending over a period of over two years. Result: Benefited.

The first case I have to report is a continuation of the history, cited as *Case 10*, in an article read by me before the Section of Obstetrics and Diseases of Women, at the thirty-seventh annual meeting of the American Medical Association, at St. Louis, May 5, 1886.

Miss C., unmarried, æt. 26, consulted me on account of abdominal tumor. She had previously obtained the advice of a homœopathic physician, who had Dr. Ludlam, of Chicago, see her, in consultation, and was pronounced by them in-

¹ These electrodes are illustrated and described in the Transactions of the Ninth International Medical Congress, and in the N. Y. Medical Record, Dec. 17, 1887.

curable. Upon examination I found a large abdominal tumor attached, as I then thought to the whole anterior wall of the uterus, crowding that organ away from the bladder. I have since ascertained that the portion previously diagnosed as the uterus is simply the cervix, the uterus being lost in the mass of the tumor, and its canal traversing its entire depth. The tumor was ovoid, smooth, and easily movable under the abdominal walls, about seven inches in its long and six inches in its transverse diameter. It was growing rapidly when she came to me, but an operation for its removal by abdominal section was refused. I therefore, with the idea of preventing further growth, if possible, and of checking the hæmorrhage, gave her iodine and ergotine treatment. After a lull in this treatment and considerable progress in the growth of the tumor, at the patient's request galvanism was commenced.

A uterine bulb electrode was introduced into the cervix, or a vaginal ball electrode was pressed firmly against the tumor where it rested against the anterior wall of the vagina, while a large hand sponge electrode was applied over the tumor on the abdominal wall. From 15 to 20 milliampères were borne by the patient at each séance, each of from fifteen to twenty minutes in length. The treatment was repeated every second day for about two months, when, not only the progress in its growth was checked, but the tumor was reduced in size. The treatment, for unavoidable reasons was discontinued for a month, when the tumor made rapid progress in growth. The galvanism was again commenced and continued for about two months, with still further diminution in the size of the tumor. At this time the case was reported as already stated. In my report at that time, not being so familiar with Dr. Apostoli's methods as now, I said: "This case would have made much better progress if the treatment had been given every day instead of every second day, or I think galvano-puncture would give better satisfaction."

In September, 1886, the patient being impatient for rapid improvement, I advised and instituted the more radical treatment of abdominal galvano-puncture. With the assistance of Dr. E. L. Hollister, of Chicago, four operations were performed in intervals of ten days. The patient was anesthetized, and a steel needle 4 mm. in diameter with a trocar point, insulated with hard rubber to within 3 cm. of the point, attached to the negative pole of the battery, was thrust through the abdominal wall into the thickest portion of the tumor. A large animal-membrane electrode was placed upon the abdomen in close proximity, and attached to the positive pole of the battery. A current of 200 ma. was turned on and allowed to pass for fifteen minutes. The

effect of these operations was a rapid diminution in the size of the tumor. The patient was then advised to rest and await further developments.

At the end of two months she returned, stating that the growth of the tumor had recommenced, the hæmorrhage being excessive. Dreading the necessary risk attendant upon abdominal puncture, and having at this time successfully treated a number of cases by Dr. Apostoli's method, I determined to adopt that safer, and, in my opinion, much more effective means. Therefore, in January, 1887, regular treatment was begun, consisting of the introduction of a plain Apostoli intra-uterine platinum electrode to the bottom of the uterus, which at this time measured 18½ cm. or seven inches in depth. To this electrode was attached the negative pole of the battery, and the circuit was completed by the use of the animal membrane electrode. Seven treatments were given before the first of February, when menstruation appeared. The first four of these treatments were of the negative intra-uterine, the last three of the positive intra-uterine. The strongest current borne by the patient was 50 ma. The menstruation following was painless, but the hæmorrhage was as excessive as ever. No change in tumor.

In *February* the patient received but four treatments; all negative intra-uterine. No apparent result on tumor or amount of flow, still no pain at menstruation.

March, two treatments only were given, both intra-uterine negative of about 50 ma. strength. The amount of flow this month caused considerable exhaustion, but no pain. No apparent change in tumor.

April, eight positive intra-uterine applications were made, with a view if possible of modifying next flow. The patient was able to tolerate without discomfort a 100 ma. current. Menstruation was not materially modified, notwithstanding the strong current and the positive pole. Tumor, however, shows signs of reduction. Uterus measures 16 cm.

I became convinced at this time that the current borne by the patient was not sufficiently strong to produce the desired coagulating effect upon the whole surface in contact with the long internal platinum electrode. The current, in other words, was not sufficiently concentrated at any one point of the comparatively large surface of the platinum to produce its characteristic coagulating effect necessary to check hæmorrhage. I, therefore, at this point, adopted my concentration electrodes. The one constructed for this case, was 3 mm. in diameter, and had an active surface of 4 sq. cm. The current this surface required was the maximum the patient had been able to tolerate, 100 ma.

May, five positive intra-uterine applications were given with the new electrode. At the first

application the active portion of the electrode, the distal end, was introduced to the bottom of the canal and the necessary current, as indicated by the milliampère metre, was turned on and allowed to act for five minutes. A gauge on the staff of the sound marked the distance to which the instrument entered the womb. At the next treatment this gauge was placed so that the active portion of the electrode would just reach the point acted upon at the previous treatment. This same principle was carried out until every portion of the canal had been treated by the concentrated current. Five treatments were given before menstruation. The effect was marvelous. The flow continued but three days instead of eight, as before, and the amount was barely a show; no pain.

June, four intra-uterine negative treatments early in the month were given with the concentration electrode, when the patient left the city for three weeks.

July, thirteen intra-uterine treatments were given. The first six negative, followed by seven positive. Tumor decreasing in size. Depth of uterus 15 cm. No pain at menstruation and otherwise normal, lasting four days.

August, five treatments, negative.

September, six treatments; two negative, four positive. Measurements of the abdomen were made at this time over the most prominent portion of the tumor; the measurement was 37½ inches.

October, six treatments, all negative intra-uterine. Menstruation still remains scanty. Patient gaining in flesh and improving in general health.

November, nine treatments, three before menstruation and six following, all negative intra-uterine. Patient improving in general health, menstruation more natural, no pain at any time. Old neuralgia entirely disappeared. Patient walks about the city and enjoys perfect health, except some little difficulty in the bladder; desires to urinate frequently.

December, five intra-uterine negative treatments. Although patient has gained in flesh since measurement was made, October 19th, she is two inches smaller, or 35½ inches at the same point. Depth of uterus 14 cm. or 5½ inches.

Thus this patient has in one year gained in flesh, in strength, has normal menstruation instead of menorrhagia, is perfectly free from pain. The uterus has been reduced from 7 to 5½ inches in depth, and the mass of the tumor is reduced fully one-third in size.

January 1, 1888, patient still under treatment.

Case 2.—Diagnosis: Bleeding, painful, myofibroma of the uterus. *Treatment:* Thirty-two applications of galvanism. *Result:* Cure.

Mrs. D., æt. 24, married two years, no children, no miscarriages. Puberty at 14. Menstruation irregular and profuse, lasting five or six days. Headaches severely at menstruation and severe

neuralgic pains of the pelvis following. Bowels constipated, hemorrhoids, leucorrhœa, frequent and painful urination. Local examination discloses small vagina, large patulous cervix, with uterus large and canal taking the direction parallel with the axis of the body, and measuring 11 cm., or a trifle more than 4 inches in depth. With sound in uterus and by bimanual manipulation there could be distinguished a thickening of the anterior wall of the fundus. The uterus in the rectal-abdominal examination appeared at least double its natural size, smooth and regular in contour, with a disproportionately enlarged fundus. Dr. Arvid H. Winemark assisted me in a few of the treatments given this case.

The first twelve treatments received by this patient were after the unmodified Apostoli method, without any attempt at accurate concentration, and a current varying from 100 to 200 ma. in strength. Six intra-uterine galvano-negative treatments were given in the first fourteen days, followed by four galvano-positive treatments, one for every second day, in order to modify the amount of the approaching menstruation. Following the first menstruation two more of these applications were made, when I adopted the method of internal concentration before referred to, using the 4 sq. cm. surface with a 100 ma. current. Thirty of these treatments were afterwards employed; twenty-two of the galvano-negative and eight of the galvano-positive. The whole time of treatment extends over three months, including three menstrual periods.

The effect of the treatment was markedly noticed in the behavior of the first menstruation, the flow having been modified in quantity, and without the slightest pain. The second menstruation lasted but two days, was very scanty and entirely free from pain. The third menstruation lasted three days, was free from any annoyance, and the flow small in quantity, with no pain. The depth of the uterus had not markedly decreased, but was smaller in contour at the first menstruation. Before the next menstrual period the uterus measured 9 cm. and a marked decrease in the general size of the uterus was evident both to the touch and sight, viewed through a speculum. The third menstruation left the uterus 7 cm. in depth, normal in contour, with no evidence of a thickened fundus, no leucorrhœa. Dysuria and constipation had both disappeared.

The patient, who had previously been anæmic in appearance, is now quite full blooded and in the best of health. The weight had not been noted at the beginning of the treatment, so the exact gain could not be determined, it was estimated, however, at about fifteen pounds.

This is one of the few actual cures reported by this method of treatment, and I have no doubt that it will remain permanent.

The patient was one who never complained of

the strength of the current and never expressed any discomfort from its use. It acted as a tonic always, and she was capable of greater exertion and more work on the days of the treatment than on off days.

Case 3.—Fibromyoma in anterior wall of uterus. Treatment, galvanism. Result, improvement in general health and slight reduction of the growth.

Miss E., unmarried, 25 years of age, referred by Dr. Wm. Bell, of Benton Harbor, Mich. Menstruation commenced at the age of 13. The flow has never been scanty, at the same time not profuse, and rather irregular. Patient is not able to get about much at the menstrual period because of neuralgic pain and excessive nervousness.

Physical examination. Uterine axis lying in the direction of the axis of the body, with a depth of $7\frac{1}{2}$ cm., or 3 inches. Upon the anterior wall, appearing to be attached to the uterus about its centre, is a well-defined growth of a hard, unyielding nature, approximating the following diameters: Anterior posterior diameter to uterine canal 8 cm., or $3\frac{1}{4}$ inches; transverse diameter $7\frac{1}{2}$ cm., or 3 inches. The growth is smooth, and the attachment, while broad, is somewhat pedicular.

This patient was sent to me, and treatment was commenced October 13, 1887. The treatment adopted at the beginning was very simple and did not prove very effective. A vaginal electrode, attached to the negative pole of the battery, was passed well up against the tumor as it rested on the anterior vaginal wall, and a large flat sponge electrode was applied over the growth upon the abdomen. A current of 20 to 30 milliampères was used according to the toleration of the patient with that variety of surface electrode. The patient received thirty-nine of these treatments in about forty-five days.

The menstruation was attended with much less pain and nervousness and lasted about four days. The interval between the beginning of the two menstrual periods was twenty-eight days. The growth had apparently reduced about one-fourth in size. The depth of the uterus remained the same as at the beginning of the treatment.

Case 4.—Large, painful, interstitial, bleeding myofibroma of the uterus. Treatment, fourteen applications of galvanism. Result, relief of pain and menorrhagia, diminution in size of tumor; restoration to health.

Miss L., æt. 39, unmarried, consulted me in November, 1886. *Subjective symptoms:* Excessive weakness, inability to walk without great fatigue, excessive and exhausting menstruation, lasting from ten to twelve days, sudden attacks of excruciating neuralgic pain in the tumor.

Objective symptoms: A large growth, extending from the umbilicus above and filling the pelvis, occupied the abdominal cavity. The mass was smooth and regular, with the exception of a lobe $2\frac{1}{2}$ inches in diameter, which appeared to be at-

tached to the left side of the main growth. Measurements of abdomen, at umbilicus $30\frac{1}{2}$ inches; midway between umbilicus and pubes, 35 inches. Cervix large and patulous, canal small and tortuous—the flexible probe, upon withdrawal, presenting the appearance of a right-handed corkscrew. Depth of uterus 21 cm., or about $8\frac{1}{2}$ inches.

The treatment advised and adopted was a strong current of galvanism applied by Apostoli's method. A probe of pure platinum was constructed which would easily conform to the shape of the canal. I found great difficulty, however, in inserting this electrode, because of the peculiar contortions of the canal. Perseverance and care, however, overcame all obstacles, and after a few treatments there was no further trouble. After the internal electrode was in position it was attached to the positive pole, the large abdominal animal membrane electrode was applied externally and attached to the negative pole. A current was gradually turned on until, at the first treatment, 100 ma. was attained. The treatment carried on in this way never produced any discomfort further than a slight burning sensation of the skin beneath the external electrode, although currents of 500 ma. were sometimes employed.

November, 1886. Patient received nineteen intra-uterine galvano-positive treatments. Has had no attack of neuralgia since commencement of the treatment. Menstruation lasted six days.

December, 1886. Thirteen galvano-positive treatments had been given when menstruation appeared, one week earlier than usual, and lasted eight days; flow profuse, no pain.

January, 1887. Sixteen intra-uterine treatments—eight galvano-negative and eight galvano-positive. Menstruation again appeared after the regular interval, and lasted but two days. This was followed in January by eight galvano-negative treatments. Patient is at this time much improved in general health and is in the best of spirits. Since coming to Chicago she has not had a single return of the paroxysms of pain formerly so much dreaded.

February, 1887. Seventeen treatments; ten galvano-negative, seven galvano-positive. Depth of uterus 19 cm.; tumor visibly reduced. Menstruation lasts five days and is normal—no pain. Patient greatly improved in general health.

March, 1887. Nine treatments, all galvano-negative. Patient returned to her home March 11.

Condition at this time: Depth of uterus, 18 cm. Measurement of abdomen at umbilicus, 29 inches; midway between umbilicus and pubes, 33 inches. While there is this decrease in the abdominal measurements, the patient has gained considerably in flesh otherwise. Patient expresses herself pleased with results of treatment, and leaves with intention of returning upon the reappearance of any of the old symptoms.

During the spring and summer the health of the patient continued to be good but, fearing the tumor was again increasing in size, she returned in October to continue treatment.

Examination October 10: Depth of uterus the same as when patient left, 18 cm.; abdominal measurements, umbilicus 32, and midway between umbilicus and pubes 34 inches, showing that the tumor is rising in the abdomen. Has had no menorrhagia and no pain since treatment was discontinued.

October, 1887. Patient received fifteen treatments, all intra-uterine galvano-negative. Menstruation appeared after second treatment and was perfectly normal.

November, 1887. Nineteen treatments, all galvano-negative. Menstruation normal.

December, 1887. Eleven treatments of the galvano-negative variety were given. Patient returned home December 17 improved in every way. Depth of uterus 16 cm. Abdominal measurements, at umbilicus 30 inches; midway between umbilicus and pubes, 33 inches.

Patient writes January 30, 1888, as follows: "I believe if it had been possible for me to continue with you from the time of the first treatment to the present time, I would have been entirely relieved of this tumor. If it becomes necessary for me to come to you again I shall try to arrange so that I can remain until there is no longer any need for treatment. I feel that I would like any one suffering with a similar trouble to know how much relief I have obtained."

Case 5. Large, painful, hæmorrhagic, interstitial and subperitoneal fibroid growth filling the pelvis. Treatment, thirty-eight negative intra-uterine galvanic applications and eleven positive applications. Result, tumor reduced one-third, hæmorrhage modified, pain relieved.

Mrs. W., colored, married, unipara, æt. 30, and referred by Dr. D. H. Williams, of Chicago, consulted me early in 1887.

Subjective symptoms: Excessive and painful menstruation which lasted ten days, difficult and frequent urination, bowels extremely constipated, sensation of severe pressure upon perineum and rectum, great difficulty in walking, being obliged to remain almost constantly upon the bed. Complains of "distressing weakness," poor appetite and digestion. These symptoms have developed and been increasing for the past three years.

Objective symptoms: By digital examination, the vagina was found large and shallow, with an irregular mass protruding into its posterior portion and depending from the cervix, which was entirely obliterated in the mass of the tumor. By bimanual manipulation the growth was found to extend to within 2 inches of the umbilicus, presenting a smooth and regular outline anteriorly, and more or less nodular appearance on the margins and posteriorly as far as could be reached

by rectal examination. Depth of uterine canal as ascertained at sixth examination, 16 cm., or 6½ inches. The course, while somewhat tortuous, took an anterior direction. While the growth was interstitial, it was distributed in such a manner as to enlarge the uterus to three or four times its normal size, with its greatest mass situated in the posterior walls.

October, 1886. On account of the tortuosity of the cervical canal I was unable to insinuate even the most flexible intra-uterine probe until after repeated attempts. Having once located the canal, however, it became an easy matter to apply an ordinary intra-uterine electrode. For the first treatments, therefore, I was unable to give more than a vaginal application. The sixth treatment was the first regular intra-uterine application. I commenced with the negative pole intra-uterine.

November, 1886. Five intra-uterine galvano-negative treatments were given. The patient menstruated twice during this month, the intermenstrual period being shorter than usual. The first, while profuse in quantity of flow as usual, and ten days in duration, was painless. The second was attended with similar symptoms, save that its duration was shortened to five days.

December, 1886. Thirteen galvano-negative intra-uterine treatments were given. Menstruation less profuse, painless and of five days duration. A marked improvement noticeable in the general health, spirits and appearance of the patient. Old neuralgia and pelvic symptoms, including constipation, entirely relieved. Tumor reduced fully one-fourth in size. Depth of uterus reduced from 16 cm. to 14 cm.

January, 1887. Eight treatments; two intra-uterine galvano-negative, six galvano-positive. Menstrual period nearly normal, general improvement still continues; patient able to attend to her work and walk about the streets.

February, 1887. Eight treatments; five galvano-negative, three galvano-positive. Menstruation normal, tumor gradually reducing. During this month the patient had an attack of fever which was ushered in by two or three distinct chills. As this attack was accompanied in the early stages by abdominal pain, it looked somewhat ominous, but proved to be nothing but intestinal irritation which was relieved by appropriate treatment. On account of this illness no treatments were given in March.

April, 1887. Nine intra-uterine galvano-negative treatments. Menstruation normal, tumor reduced to about one-third original size. At this time treatment was discontinued.

Case 6.—Fibro-myoma of posterior wall of fundus. Treatment: 62 applications of galvanism. Result: Growth absorbed, all symptoms relieved—Symptomatic cure.

Miss H., Fulton St., Chicago, unmarried, age 24, menstruated at 17. Dispensary case.

This patient presented herself at Chicago Polyclinic Dispensary, May 17, 1887. Complained of excessive flowing, which exhausted her so as to interfere with her duties as a domestic. Paroxysms of pain occurred frequently without warning through pelvic region, from the bladder to the rectum. These, apparently, bore no relation to menstruation. Patient was anemic; weight 110 lbs.

Patient complained of difficulty in urination; bowels constipated; symptoms had been increasing in severity for two years; has had no local treatment; has taken some internal medication without result.

Local Examination: Vagina small and sensitive. Cervix-uteri small, and situated well back in the hollow of the sacrum. Uterus by bi-manual manipulation appears about the size of three and one-half months' pregnancy. Impossible to introduce sound at first visit.

At second visit was able to introduce a flexible bougie to the depth of 10 cm., or about 4 inches, the probe took an anterior direction, this was followed by an Apostoli intra-uterine sound of platinum, which was attached to the negative pole of the battery. The abdominal electrode attached to the positive pole was applied, and a current of 300 ma. gradually turned on without the slightest discomfort to the patient. This was followed by five negative intra-uterine treatments, on successive days, and immediately before the next menstruation by four positive intra-uterine applications. During these ten treatments the current reached on two occasions to an approximate strength of 500 ma. The patient at these times experienced, apparently, no great discomfort. I discovered, however, that the effect on the mucous membrane of the uterus was too severe, and the current was never afterward allowed to pass 300 ma.

The menstrual period following was free from pain, and the paroxysms which previously had been so distressing, did not occur again. The flow was more profuse than before.

During the next intra-menstrual period patient received fifteen treatments—ten negative, followed by five positive. The former with Apostoli's probe, with a 300 ma. current, the latter by my concentration electrode, 3 mm. in diameter and 4 sq. cm. surface requiring 100 ma. current.

Second menstrual period passed without pain. The flow lasted three days, and was less in quantity than at any time for the past two years. Uterus measured, August 27th, 8 cm.

During next intra-menstrual period sixteen treatments were given—all negative—with the flexible electrode, requiring 100 ma. current.

Third menstruation free from pain, lasted four days, perfectly normal.

Twelve negative treatments were given during the next month. The following menstruation lasted three days, the flow being very scant.

The uterus at this time measured but 7 cm., and was but little larger than normal. The patient had become strong and hearty, weighed 122 pounds, and declared herself perfectly well. She was with difficulty persuaded to take a few more treatments—ten in all—when she stopped coming of her own accord. When seen in December she was well in every respect.

Case 7.—*Large, painful, hemorrhagic myo-fibroma of the uterus, filling pelvis and lower abdomen. Thirty applications of galvanism. Symptomatic cure.*

Miss T., unmarried. Consulted me April 1, 1887. Eight years ago she discovered a tumor for which, in 1881, she consulted Dr. T. Addis Emmett, and remained under his care for several months, the principal treatment being the application of tincture of iodine and glycerine tampons. Since that time she has consulted other physicians, but the symptoms have gradually increased, the principal being difficulty in locomotion, frequent and painful urination, chronic constipation, palpitation of the heart, loss of flesh, general weakness, excessive menstruation, lasting from eight to fourteen days, being very violent the first five days.

Objective Symptoms.—Large tumor, about the size of a four or five months' pregnancy, occupying the pelvis, of interstitial variety, increasing the depth of the uterus to 19 cm., or 7½ inches. Cervix large, patulous, and directed toward the sacrum, and entered with great difficulty with flexible probe. Canal exceedingly tortuous and not easily traversed.

Treatment: April.—Eighteen intra-uterine galvano-positive, and eight intra-uterine galvano-negative.

May.—Five intra-uterine galvano-negative, making in all thirty applications, the current varying from 50 to 250 ma. The galvano-positive treatments were administered first, and until menstruation appeared, which was so modified that it was followed entirely by the galvano-negative treatment. While I advised the patient to remain longer with me it was necessary, for private reasons, for her to return home. During her stay in the city, and when under treatment, her general health and nutrition were much improved.

Results.—May 6th, uterus reduced in depth 3 cm., measuring at present 16 cm. Tumor visibly reduced, locomotion greatly improved, general gain in flesh and strength.

Not having had an opportunity of examining the patient since that day I have no means of judging of her condition except from her own words: "You write, Dr. Martin, to know how I am. I am decidedly better. For some time after my return from Chicago I did not think I could live. In July I had a very sharp attack of peritonitis, but that is all over. I have not been as well in ten years. I am a surprise to my friends and to myself, too. Do you think it possible that three

months after treatment the electricity could be having its effect? I am like the man in the Bible, I only know I am healed."

The reply I make to the above question is as follows: The patient has received no other treatment. It is no uncommon occurrence in the treatment of tumors by electrolysis for the growths to gradually reduce in size and symptoms disappear months after the treatments have been discontinued. Verified cases substantiating this fact have been reported by Dr. J. N. Freeman, of New York, by Dr. Apostoli himself, and by Dr. Thomas Keith, also. The fact of this patient receiving thirty very strong applications of galvanism in a little over a month, receiving marked benefit while under treatment, and knowing the history of the case in all its details as I do, leads me to state unhesitatingly that it can be ranked under the same head as those reported by the above operators.

Case 8.—Myo-fibroma of the right horn of the uterus. Excessive hemorrhage, accompanied and followed by excruciating pain. Sixty-two applications of galvanism. Cure.

Mrs. M., æt. 29, married two and a half years, no children; residence Hyde Park, Ill. Consulted me March 31, 1887. Menstruation preceded, and until thoroughly established, accompanied by pain. Excessive, but not exhaustive flowing has been the rule, lasting on an average seven days. The disappearance of menstruation is followed the succeeding day by the most excruciating pelvic neuralgia that it has been my lot to witness, which lasts about two weeks, and while continuous has periods of greater and lesser degrees of violence.

Local examination revealed the cervix uteri normal and in proper location. A flexible probe entering uterus passes to the depth of 8 cm. or a trifle over three inches, and is posteriorly deflected striking a very tender point at its distal extremity, which causes pain similar to that experienced after menstruation. Bimanual manipulation reveals enlargement of the right horn of the uterus, with a solid growth the size of a goose egg protruding from its surface in the direction of the right ovary. By rectal abdominal examination this proves to be growing from the fundus of the uterus. The whole gives the impression of a right lateral retroversion of a uterus fully four inches in length.

This patient had received treatment and advice from some of the best physicians of the country, including one of the leading gynecologists of Chicago, but had never found the slightest relief. It was with the idea of receiving the galvanic treatment that she was sent to me.

Considering the case suitable for the Apostoli treatment, I commenced it in April. I introduced an intra-uterine flexible electrode 3 mm. in diameter, with an active surface of 2 sq. cm.

in such a manner as to bring the active portion of the electrode in accurate contact with the sensitive portion of the uterus, which had been discovered in probing. It was then attached to the negative pole of the battery, the circuit completed by the abdominal electrode, and a current of 50 ma. carefully turned on. At the end of about three minutes the patient complained of the "old pain." The current was immediately reduced and the treatment ended. She was given stimulants and directed to remain quiet. The pain gradually subsided, and at the end of an hour she was able to return home.

The next treatment, April 4, was similar to the first, save that a much weaker current was used in order to avoid the previous unpleasant effects, and to regain the confidence of the patient. In April, twelve treatments were administered, the strength of the current being gradually increased, until the 50 ma. required were easily tolerated. The first menstruation appeared in the last week of the month and lasted five days. It was followed by the customary pain which, however, was reduced in duration from two weeks to two days.

In May, eight treatments were given; four galvano-negative and four galvano-positive. This month the menstruation lasted but four days, and was succeeded by one day of pain, which was less severe than formerly.

In June, twenty-four treatments were given, all galvano-negative. Menstruation this month lasted four days, the flow very greatly reduced, and to the delight of the patient, the old pain failed to reappear at all.

In July, nine treatments were given, all galvano-negative. Menstruation was perfectly normal. The depth of the uterus reduced to 6 cm. and the foreign growth had almost disappeared.

In August, eleven treatments, all galvano-negative, were given. Menstruation normal and patient's general health excellent.

In September, seven galvano-negative treatments. Tumor still reducing.

October, the patient received one treatment on the 3d of the month. She then left the city for some time and I did not see her again until December 8, when I found by examination that her pelvic organs were perfectly normal. The uterus measured 6 cm. in depth. The growth was imperceptible. The two menstruations passed while absent were perfectly normal. The patient was discharged cured. I see her frequently, and she remains in the most perfect health.

Case 9.—Large interstitial, partially submucous hæmorrhagic fibroid growth of the uterus, enlarging that organ, filling the pelvis below and extending nearly to umbilicus above. Thirty-seven applications of galvanism, 20 intra-uterine galvano-negative, 17 intra-uterine galvano-positive. Reduction of growth one-third. Other symptoms not relieved.

Mrs. S., widow, was referred to me by Dr. J. B. Sullivan, of Stanton, Michigan. Age 34, no children, no miscarriages, puberty at 14. Subjective symptoms: Excessive and exhaustive menstrual which lasts from four to ten days and is accompanied with excruciating bearing-down pains occasionally. Bowels constipated and often difficulty in urination. Bearing-down pain is complained of and the greatest difficulty in locomotion is experienced. Patient very thin and anæmic.

Objective symptoms: Large, regular, oval-shaped growth, filling the lower pelvis and extending within a couple of fingers breadth of the umbilicus is found upon bimanual manipulation. This proves to be an enlargement of the uterus, as the probe easily enters to the depth of 17 cm. or 6 $\frac{3}{4}$ inches. The growth is movable and apparently free from adhesion. Cervix large and patulous.

This patient was given at once the benefit of Apostoli's treatment. The treatments given before the first menstruation were all intra-uterine galvano-positive. The first menstruation was postponed for more than two weeks, when it did appear, however, it was as profuse as at the former one before any treatment had been given. The treatment was continued in this way: the positive applications being given immediately before menstruation, and the negative following menstruation, until twenty of the latter or negative, and seventeen of the former or positive, had been given. No attempt in this case was made at accurate concentration; in this case the large Apostoli platinum electrode being used internally and the current varying from 100 to 300 ma. While the growth decreased in size the hæmorrhage was not controlled, and at the end of about three months the patient reluctantly returned home for private reasons, with the assurance that she would return. She has not done so, however, and in response to my inquiries she writes that while the menorrhagia is no more severe than when she came to me, it is no better. Her general health and other symptoms are about the same.

While this patient was under treatment she had a number of attacks of uterine pains accompanied with expulsive contractions, which succeeded in expelling a number of pieces of a fleshy character. This upon examination proved to be of a fibromyomatous character. I decided from this and from subsequent examinations with a probe that a portion of the growth was submucous, and that through the efforts of the womb this was being forced into its cavity and its expulsion accomplished. This fact accounted for the poor success I had in checking the menorrhagia, although I believe with continued treatment the patient would have been relieved of all symptoms.

The entire growth while under treatment

diminished approximately one-third in size. The uterus was reduced in depth from 17 cm. to 15 cm.

Case 10.—*Large subperitoneal fibroid growth, about 8 inches in its long and 4 in its shorter diameter, with irregular contour, attached to the entire fundus and posterior wall of a slightly enlarged uterus. Thirty applications of galvanism. Symptomatic cure.*

Mrs. H., married, age 45, no children, no miscarriages, was referred to me by Dr. A. Reeves Jackson, Aug. 22, 1887. She first menstruated at 17, and was normal in this respect until about 12 years ago, when a slight increase in quantity of flow was noticed, which has gradually increased up to the present time. Now menstruation lasts from five to six days, is profuse, and is accompanied with considerable pain. Serious pressure on rectum and bladder is complained of, which is the source of greatest discomfort to patient and is the cause of her seeking relief.

Objective Symptoms: A solid fibroid tumor, 8 by 4 inches in diameter, occupying and dilating the upper portion of the vagina, completely fills the pelvis. Protruding from its lower portion and almost reaching the vulva is the cervix, from which can be traced above, the body of the uterus. Its canal, which is posteriorly directed, being 8 cm. or a trifle over 3 inches in depth. From the neck of the uterus the tumor extends as an irregular mass in all directions, pressing upon the rectum posteriorly and the bladder anteriorly, and is almost immovable.

Treatment.—August 4th, intra-uterine galvano-positive treatment, by means of the flexible intra-uterine electrode, requiring 110 ma. current, were given. In the early part of September two more galvano-positive treatments were given. The effect of these six treatments so modified the following menstruation that in the succeeding applications the galvano-negative current was employed entirely. During the remainder of this month and until the 15th of November 19 intra-uterine-galvano-negative treatments were given, when the condition of the patient was as follows: Menstruation for the first three months normal, general health remarkably improved. Pressure on rectum and bladder almost entirely relieved. Tumor reduced in size approximately one-third, and it has become quite freely movable. The uterus is less than 7 cm. in depth. From this time until December 15th, I varied the treatment and gave 10 intra-vaginal galvano-negative applications. The vaginal electrode being so placed as to cause the current to pass through the mass of the tumor situated behind the uterus. This was done in order to reach that part of the tumor which was inaccessible owing to the shallowness of the uterine canal by any other means save galvano-puncture, which operation I always seek to avoid if possible. The patient was at this time so much improved, that by my advice she discon-

tinued treatment, with the expectation of returning if any unfavorable symptoms should reappear.

Case 11.—*Interstitial, hæmorrhagic, painful myofibroma of the anterior wall and fundus of the uterus increasing its depth to 3½ ins. or 8 cm. Thirty intra-uterine applications of galvanism. Depth of uterus reduced to 2½ ins., general health improved, menorrhagia modified, other symptoms relieved.*

Mrs. J., æt. 32, married 9 years, 2 children, the youngest 6 years of age, has had two miscarriages, the last one occurring about 3 years ago. The present trouble dates from that time, and first manifested itself in frequent urination from pressure on the bladder. Soon after this the patient had a sharp attack of peritonitis, and from that time severe hæmorrhage has taken place at each menstruation, which has, however, been somewhat irregular.

This patient has been under the care of several prominent physicians.

Subjective Symptoms.—Menstruation profuse, lasting ten days; pressure upon bladder renders urination frequent and painful; locomotion difficult from general feeling of pelvic weakness; patient anæmic and discouraged. *Objective Symptoms:* Uterus large and congested, occupying about its normal position, depth 8½ cm. or 3½ inches. Upon the fundus and anterior wall of the uterus is a distinct thickening, which gives that organ the appearance of an acute anteflexion and increases its apparent depth about 2 inches.

The first treatment was given September 15, the flexible electrode 4 mm. in diameter requiring 100 ma. current being employed. From this time until Dec. 19, 30 intra-uterine treatments were given, the last four or five before each menstruation being galvano-positive, the rest galvano negative. This patient improved immediately in general health and nutrition. Menstruation from the first was modified, but was not at any time satisfactorily checked, before the treatment was necessarily discontinued. Notwithstanding this, the uterus was materially reduced in size, measuring 7 cm. or less than 2¾ inches, and the thickening in the anterior wall was diminished at least two-thirds. The pelvic symptoms, including pressure upon the bladder and constipation, disappeared. At this time, much to my regret, treatment was discontinued on account of removal from the city. The patient assured me, however, that I might expect her back should any of the old symptoms reappear.

Case 12.—*Large hæmorrhagic, interstitial, subserous, fibroid growth of the uterus. Twenty-one applications of galvanism. General health improved; pain and pressure on bowels relieved; tumor reduced one-third. Still under treatment.*

Mrs. B., age 39, married, three children, youngest child 7 years old, one miscarriage. Was referred to me by Dr. H. T. Byford, Sept. 21. The

tumor had been discovered by her family physician about two weeks previous to date.

Subjective Symptoms.—Difficulty in locomotion; bowels obstinately constipated; constant and increasing disurea; menstruation profuse and exhaustive; profuse leucorrhœa; constant backache and general feeling of bearing down.

Objective Symptoms.—Large unyielding growth, filling pelvis and lower part of abdomen, attached to the whole fundus and posterior wall of the uterus in such a manner as to greatly enlarge that organ. Depth of uterus 16 cm., or about 6 inches; cervix large and patulous; canal long, easily admitting a sound 5 mm. in diameter to its full depth, which takes first a posterior direction, afterwards curves anteriorly, and when withdrawn presents the appearance of one-third the arc of a circle. The uterus and tumor are movable, the latter fills the pelvis, and rises above it so as to considerably enlarge the lower abdomen. Measurement of umbilicus 39 inches, midway between umbilicus and pubes at most prominent portion of growth, 44 inches.

Treatment.—From Sept. 21st to Dec. 20th, 21 intra-uterine treatments were given. The internal electrode employed was of the flexible variety, 5 mm. in diameter, and had an active surface of 4 sq. cm., requiring a current of 100 ma. It was used as a positive electrode, in all, six times; as the negative, fifteen.

Results.—The general health of the patient commenced to improve immediately; first menstruation was sufficiently modified to greatly encourage her; pain and pressure in bowels soon greatly relieved.

Condition on Dec. 21, when temporarily discharged.—Tumor reduced fully one third; general health much improved; notwithstanding a considerable gain in flesh, the abdominal measurements are, at umbilicus, 38 inches, as against 39, three months ago, midway 40, as against 44. Depth of uterus reduced from 15 cm. to 12 cm. Menstruation normal; pressure on bladder and rectum greatly relieved; all pelvic discomforts gone; walks with ease.

The patient at this time was so much improved that I advised her to stop treatment for a time and await results, and to return should it prove necessary.

Case 13.—*Myofibroma of the anterior portion of the neck and body of the uterus, 7 cm., or a little less than 3 inches in diameter. Sixty-one applications of intra-uterine negative galvanism. Cure.*

Mrs. T., age 27, married five years, no children, no miscarriage.

Subjective Symptoms.—Frequent and difficult urination; profuse, but not exhaustive menstruation, with much pain during the latter portion.

Objective Symptoms.—Depth of uterus 8 cm., or 3¼ inches; sound passes in the direction parallel to the axis of the body. On the anterior wall of

the body and neck of the uterus is a hard mass, or tumor, which would measure, approximately, 7 or 8 cm. in diameter, of a smooth, regular exterior and quite freely movable with the uterus. Trouble has been developing for about four years.

The diagnosis in this case was first made by Dr. A. E. Small, who had during my absence taken charge of my clinic at the S. S. Dispensary, where the patient presented herself.

The first treatment was given June 7th. An Apostoli intra-uterine platinum probe was inserted to the bottom of the uterine canal and connected with the negative pole of the battery. The large abdominal electrode was employed to complete the circuit by applying it over the tumor on the abdominal surface in such a position as to insure the passage of the current through the mass of the growth. A current was then gradually turned on until 200 ma. was reached. This was allowed to pass for about five minutes, the patient experiencing no discomfort. Considerable discharge of a watery character took place from the uterus and a bubbling of gas was noticed around the staff of the electrode as it made its escape through the fluid. Eleven of these treatments were given during June, a current being tolerated a number of times of as high intensity as 500 ma. The tumor showed a tendency from the beginning to reduce rapidly in size. The menstruation this month was rather more profuse than usual, but painless.

July 15, intra-uterine negative treatments were given. Highest intensity employed, 300 ma. No discomfort, except tenderness of the skin; growth rapidly decreasing; uterus 7 cm.; menstruation normal.

August, fourteen intra-uterine negative treatments given. Highest intensity 2.50 ma. Patient declares herself well; growth appears simply as a thickening of the anterior wall of the uterus, or as an anteversion; pressure on bladder gone; menstruation rather profuse.

September. It was with difficulty that I could convince the patient that it was still necessary for her to receive treatment. A few were given this month by Dr. Wimermark. Highest intensity 200 ma.

October. Patient with difficulty induced to take ten more treatments.

Discharged October 24th. Depth of uterus 6 cm., or about 2.4 inches; thickening of the anterior wall no longer perceptible; all other unnatural symptoms have disappeared. Result: cure.

Case 11.—*Large, polypoid, sub-mucous growth, attached by a small pedicle to the interior of the fundus of uterus and protruding at the cervix. A few surface applications of galvanism, made by means of a cervical electrode. Result: Nothing appreciable, recommended operation.*

This case was soon discovered to be one in

which ergot or an operation was better adapted to give prompt and permanent relief. Consultation with Dr. Mann, of Buffalo, was therefore advised, and the growth was successfully removed.

Case 15.—*Myofibroma of fundus and posterior portion of uterus, accompanied with menorrhagia. Twenty-three intra-uterine applications of galvanism. Cure.*

Mrs. M., æt. 32, three children, youngest 3 years of age, consulted me at the South Side Dispensary some time in the early part of October, 1887.

Subjective symptoms: General weakness and increasing difficulty in locomotion. Menstruation profuse and exhausting in amount, and accompanied with severe contractive pain; duration about eight days. Constipation has been of late a distressing symptom. General pelvic pressure and painful bladder symptoms are complained of. These symptoms have been getting worse and more aggravated for about two years. Appetite and digestion fair.

Objective symptoms: Cervix uteri large and patulous. Canal large and easily followed with flexible sound to the depth of 11 cm., or 4 $\frac{1}{3}$ inches. Course of sound for about 2 inches parallel with axis of pelvis, then takes a sudden bend anteriorly to the bottom of the uterus. In a bimanual manipulation the uterus presents the appearance of a 3 $\frac{1}{2}$ months' pregnancy, smooth and movable. The greatest thickness of the walls is in the fundus and posterior portion of the uterus below the fundus, although the whole organ is considerably hypertrophied. The uterus proper is quite decidedly anteverted, as shown by the probe.

This patient, commencing treatment in the middle of October, received twenty-three applications up to the middle of December. The internal electrode employed was of the flexible variety, 3 mm. in diameter, with an active surface requiring a 100 ma. current. The first six treatments given were of the intra-uterine positive, the remaining seventeen were intra-uterine negative. The current was well tolerated and the patient, judging from her faithful attendance, was not displeased with the effect. Menstruation was markedly modified for the better at its first appearance after treatment was begun. The general nutrition of the patient commenced to improve at once, and after the first month locomotion was accomplished with much greater ease, and the pelvic symptoms were greatly relieved, including the constipation. In this case a peculiarity was noticed in there being a much larger flow of clear watery fluid from the uterus during a negative intra-uterine application than is usual. At first this flow was very profuse, sometimes filling the speculum during a treatment. This watery discharge, however, gradually became less and less as the treatment progressed, until finally it was no more than in ordinary cases.

The recovery of this patient was uninterrupted, and when she received her last treatment, December 24, she was in the following condition: Uterus reduced fully one-half in size—its depth being reduced from 11 to 8 cm. The abnormal thickening of the fundus and sides of the organ had entirely disappeared. The large and patulous cervix was reduced to normal, and the discharge from the cervical canal ceased. The uterus is movable and menstruation painless and normal in quantity, lasting but three days. Constipation has disappeared and the pressure on bladder is entirely relieved. Patient is in better health than at any time since birth of first child.

GENERAL SUMMARY.

1. A means of generating a continuous current of electricity of steady and uniform character, that can give an actual current strength through a resistance of 200 ohms, of 500 milliamperes, is necessary in order to obtain all the benefits of this treatment.

2. Fibroid tumors of small size can be completely absorbed by the proper application of strong currents of galvanism.

3. Hæmorrhages from hæmorrhagic fibroid tumors can be promptly cured by the local coagulating effect of the positive pole when it is applied intra-uterine. Severe neuralgias so often accompanying these troubles can invariably be relieved by three or four applications of this treatment.

4. When the cervical canal cannot be entered by any form of intra-uterine electrode, flexible or otherwise, after repeated trials, a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumor, and an artificial canal opened, which is to take the place of the impenetrable uterine canal in all subsequent treatments.

5. The intra-uterine electrode should in all cases be negative, unless there is hæmorrhage or excessive leucorrhœa, when the positive pole is always required. The same patient, may, however, present symptoms demanding the use of both poles at successive operations.

6. The strength of the current should depend entirely upon the amount of active surface of the internal electrode, and should be 25 milliamperes for each sq. cm. of active surface in actual contact with the endometrium. If more is used the concentration of the current will be sufficient to cause troublesome cauterization, if less is used the concentration at any one point will not be sufficient to cause the necessary coagulation for checking hæmorrhage.

7. The duration of the treatment should be five minutes of the maximum current required.

8. The number of operations is necessarily dependent upon and influenced by the result to be accomplished. A severe hæmorrhage can be

checked, and symptomatic relief can often be accomplished by four or five séances, while a general reduction of the tumor necessitates many operations, varied of course, according to the size and location of the growth. In some cases of large multiple tumors a relief of symptoms, or symptomatic cure, must be accepted as a substitute for an actual cure.

9. The operation should be intra-menstrual, if possible, if hæmorrhage is continuous, however, operate during flow. The séances can occur as often as every day with the system of concentration adopted that enables one to attack different portions of the canal at succeeding treatments, or it can be given with advantage as few as once a week.

10. Since the adoption of the flexible intra-uterine electrodes and Dr. Apostoli's vaginal galvano-puncture, extra-uterine puncture should be regarded, if at all, only as a last resort.

11. Galvano-puncture needles, and the internal electrodes, should be constructed of material that is not injured by coming in contact with strong carbolic acid, or 1:1000 bichloride mercury solution. All internal electrodes should be thoroughly scrubbed with a nail brush and soap and water after each application, and allowed to remain in one or the other of these standard antiseptic solutions until they are to be employed again, when they should be washed in a weaker solution of the same before using. Before a vaginal puncture is made the vagina should be thoroughly wiped out with a 1 to 3000 bichloride solution.

12. There is no excuse for any percentage of mortality in the proper application of this treatment. While Dr. Apostoli has had two deaths in 275 cases, he candidly admits they were due to avoidable accidents rather than to any legitimate procedure of the operation.

13. In experienced hands, and by the adoption of the present means of concentration, the most delicate and sensitive patient can receive, without experiencing any severe discomfort, all the benefits to be derived from this valuable treatment.

163 State Street, Chicago.

NIGHT SWEATS.—Few practitioners appreciate the exceedingly great value of agaricin as a remedy in night sweats, especially those of phthisis. The most profuse sweat is checked almost by magic, with a single dose. It operates by diminishing thirst and increasing the secretion of urine. The dose may be pushed to the extent of one grain in the course of twenty-four hours. The single dose for an adult is from one-eighth to one-fourth of a grain.—*Technics*, No. 8. Boston.

Are you a member of the Association?

NOTE ON RUMBOLD'S METHOD OF TREATMENT OF CATARRHAL INFLAMMATIONS OF THE UPPER AIR PASSAGES.

BY ELY McCLELLAN, M.D.,
SURGEON UNITED STATES ARMY.

My note published in THE JOURNAL of August 18, has occasioned so many letters asking for further information as to the details of the method therein advocated, that I feel called upon to present a second paper on the subject in which the attempt will be made to detail each step in the procedure so plainly, that it will enable those who may wish to avail themselves of the method of treatment, to proceed in its practical administration without delay. As stated in my former paper, the method of treatment which is advocated, originated with and has been elaborated by, Dr. Rumbold, whose experience in the treatment of the diseases of the throat, nose and ears dates back to 1855, and who has used vaseline since 1872.

The history of this therapeutic measure is as follows: In 1866, Dr. Rumbold obtained the glass spray producers of Maunder, to each of which a small bottle was attached as the receptacle for the fluids to be atomized. After some experience in their use, Dr. Rumbold commenced the manufacture of glass spray producers in his own office, and with his own hands produced the instrument in the shape in which it is now used.

In 1870 a specimen of cosmoline was placed in his hands, and having at the time a patient in whose case great difficulty was had in removing inspissated mucous, the cosmoline at the point of liquefaction was exhibited by means of a glass spray producer, and the results obtained in this case led to the development of the measure under consideration.

For many years vaseline has been recommended as an available application to inflamed mucous surfaces, but so far as I am able to determine, Dr. Rumbold is the first investigator who devised means by which vaseline at the point of liquefaction can be thrown upon all the deep-seated surfaces of the nasal and pharyngo-nasal cavities. This therapeutic measure has stood the test of eighteen years practical experience, and has invariably yielded the anticipated results in all cases which were at all susceptible to improvement.

In my former paper I stated that this method was not fully recognized outside of the locality in which Dr. Rumbold resides. It was by no means intended to convey the impression that it had not been presented to the medical profession by its originator. Dr. Rumbold began the publication of his views in 1868. In 1872 they were presented to the St. Louis Medical Society. The volumes

of the *St. Louis Medical and Surgical Journal*, and the *Chicago Medical Journal and Examiner*, will be found to contain them. The first edition of his work was published in 1881. The second and enlarged edition was published in the present year. It is not intended in this paper to attempt any description of the many and valuable measures which Dr. Rumbold has devised in the treatment of diseases of the throat, nose and ears, but to confine myself to his method of treatment of what is commonly known as nasal catarrh, with a description of the necessary instruments, and an account of the method by which they should be used.

The essentials are as follows:

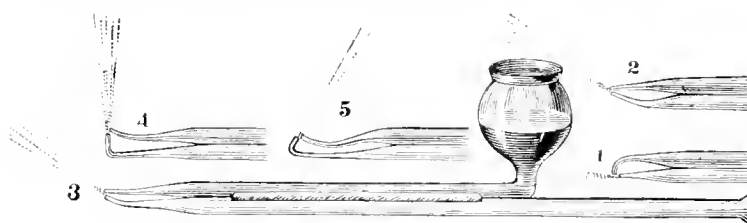
1. Four spray producers. 2. A tongue depressor. 3. A nasal speculum. 4. A pharyngeal mirror. 5. Suitable illumination. 6. Compressed air. 7. Means by which the vaseline may be melted. 8. Towels and napkins. 9. An active disinfecting solution.

I. The Rumbold *spray producers* are made of glass or white metal. They are 8 inches in length, in the form of the well-known atomizing tubes, but the upper tube is armed with and terminates in a cup capable of holding a drachm of melted vaseline. Between the cup and the spray point, the tubes are bent laterally sufficient to allow them to maintain an upright position when placed upon a table. The free extremity is enlarged to a bulb which makes the attachment to the tubing which conveys the compressed air more secure. These spray producers are arbitrarily numbered 1, 2, 4, 5; numbers 4 and 5 being found to meet all the indications of the original No. 3. These instruments deliver the spray as shown in the following plate: (See Cut 1.)

II. The Rumbold *tongue depressor* is an instrument 9 inches in length. It is furnished with three blades of different lengths, for use upon adult males and females and children. The blades are respectively 3, 2½, and 2 inches in length. They are attached to the handle by a screw and are rapidly placed in position and detached. The blade is only long enough to depress the base of the tongue, without occasioning gagging. This instrument should be held by the patient, whose hand will not interfere with the movements of the operator. (See Cut 2.)

III. The Rumbold *nasal speculum* is a bi-valve with a handle 8 inches in length. The blades are 1½ inch long, and are so attached to the handle as to be readily reversible. The blades are flat and sufficiently wide to protect the membrane from contact with the hot instrument when a treatment is made. This instrument admits of free inspection of the anterior nares, and may be used in all operations. (See Cut 3.)

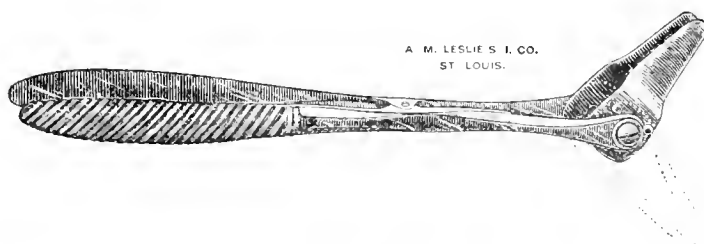
IV. The Rumbold *pharyngeal mirror* is a most ingenious instrument. The mirror is controlled by a spring upon the handle, by means of which



CUT No. 1.



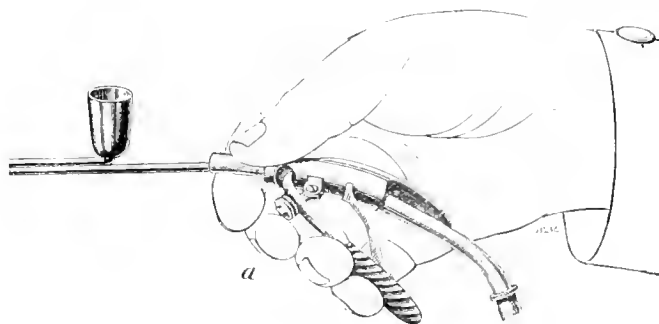
CUT No. 2.



CUT No. 3.



CUT No. 4.



CUT No. 5.

it can be placed at and maintained in position of various angles without being removed and without the patient's knowledge. The holder is so arranged that mirrors of various sizes and shapes may be employed. (See Cut 4).

V. *Suitable illumination.* Light from a clear sky, reflected by a concave mirror attached by means of an elastic band to the forehead of the operator, has been thought to be the best illuminator. Its use, however, is open to the objection that sunlight is not always attainable, and that the use of the mirror upon the forehead becomes exceedingly irksome. It is therefore thought best that, in the treatment of this class of diseases, the operator should accustom himself to artificial illumination. The Tobold illuminator, applied to either a gas or coal oil burner, are the measures most in use and are very satisfactory in examinations. The A. M. Leslie Surgical Instrument Company have recently furnished me with a battery of three Turner cells which, by means of an Edison two candle power light, furnishes a perfectly satisfactory illumination. I do not know but what it is far more satisfactory than any other means at my command.

VI. *Compressed air.*—The simplest means of obtaining compressed air will be found in the soft rubber hand bulb, now so constantly in use for all atomization. The use of this is, however, laborious and, when many patients are to be treated, becomes tiresome. Dr. Rumbold has devised a most excellent apparatus for this purpose, which is far superior to others in use, by which the air is compressed by hydraulic pressure. It is, however, too elaborate except for the office of a specialist. Various forms of tanks for holding compressed air are on the market, the most valuable of them being, in my experience, the Standard Hygienic Air Compressor of the Leslie Company. This tank is furnished with a gage and cut-off, rendering the flow of the air absolutely within the control of the operator. I have used such a tank for some time and have found no cause of complaint in its action.

When a tank of compressed air is employed, it involves a necessity for an additional air "cut-off" by means of which the flow may be instantly arrested. The Rumbold spray controller answers this purpose perfectly. (See Cut 5.)

VII. *A heating apparatus.*—Where gas or lamps of any kind are employed for purposes of illumination, the agent for this purpose is constantly at hand. Where the natural light or the electric candle is employed, a small spirit lamp will be found to answer the purpose.

VIII. *Napkins and towels.*—Absolute cleanliness must be observed in this method of treatment. A small napkin should be used in all handling of instruments. It is also good form to furnish a clean handkerchief for the use of a patient. Vaseline is a rebellious substance when

the attempt is made to remove it from fabrics, therefore care should be taken not to soil the clothing of patients. The soiled napkins and handkerchiefs should be treated antiseptically when laundried.

IX. *A disinfecting solution.*—A convenient bowl should always be at hand, filled with a disinfecting solution in which all instruments should be placed after employment. I have found the solution of Labarraque in rain-water to answer this purpose. In such a solution every instrument which may come in contact with the mucous surfaces should be immersed after each use, and they should be carefully dried on a clean napkin before being again employed. The operator should constantly bear in mind the fact that, to a majority of his patients, the thought of submitting to the employment on their persons of instruments which have been indiscriminately used is most repulsive, and that nothing is more disgusting than the odor of dried saliva on tongue depressors and throat mirrors.

It will be recollected by those who read my former paper that the method of treatment advocated is based upon the abandonment of all heroic procedures. The removal of morbid secretions, either fresh or dry, from the inflamed mucous surfaces is to be accomplished, but not by means which will in any way add to the local irritation, and this is to be immediately followed by a thorough application of an aseptic medicament which has a sufficient density and tenacity as will enable it to remain impervious to the air for several hours after the application has been accomplished; and experience has proven that these indications are fully met by the employment of vaseline. Vaseline, however, is not recommended as a basis for the exhibition of other remedies, but for its own intrinsic properties and for its physiological effect.

The medicaments now in use by Dr. Rumbold are as follows: 1. Vaseline. 2. Eucalyptol. 3. Gaultheria. 4. Fluid extract of pinus canadensis and glycerine. His experience has proven that the aseptic property of vaseline is enhanced by the addition of eucalyptol; that the extract of pinus canadensis is a decided tonic and slightly an astringent to the mucous membrane of the throat; and that the oil of gaultheria increases the tonic effect. The glycerine is used as a menstruum in the pinus mixture and as a placebo to the gustatory nerves. To prepare these substances for use the following directions should be observed: Take a wide mouth glass stoppered bottle, place in it 2 ozs. of vaseline, add 10 minims of eucalyptol, and mix cold. To mix first use a glass rod and then a small spoon. Continue this process until the eucalyptol is intimately incorporated with the vaseline. In a second bottle containing the same amount of vaseline add 10 minims of the oil of gaultheria and mix as in the first instance. In a graduated measure place 1 oz. of glycerine, on it

drop 30 minims of the fl. extract of *pinus canadensis*,¹ and then add slowly 3 ozs. of boiling water and mix. When cold place in a bottle similar to those first used. A fourth bottle should contain a supply of pure vaseline. Each bottle should be labeled. A small spatula should be at hand by which the vaseline may be removed from the bottles when the spray cup is to be charged.

In making an examination and giving a treatment it is well to observe the following directions: On a convenient table should be arranged the various instruments, appliances, and medicaments, so as readily to be reached. The operator should be seated so that his left arm is free of the side of the table. The patient should be seated facing the operator and on the left side. This relative position should be invariably maintained, even in such cases as are examined by means of the natural light. The operator should never stand over or sit in front of his patient. In making an examination the patient is handed the tongue depressor and simply told to open his mouth and apply the instrument. These simple directions are generally sufficient to secure free access to the throat, which can be fully illuminated and rapidly examined.

The treatment commences by warming spray producer No. 4. When warm a drachm of pure vaseline is placed in the cup, to which is added a small quantity of the eucalyptolized vaseline, not to exceed a grain in weight. The instrument is now heated until the vaseline is thoroughly melted and until the tubes in their length are hot enough to continue the liquefaction. Connection is now made with whatever apparatus is used for compressed air. The tongue depressor is again applied by the patient. The spray point is carried behind the *velum pendulum palati*, and the spray is thrown upwards and backwards into the pharyngo-nasal cavity. This act of spraying should not be continued but for a moment, when the instrument should be removed to allow the patient to clear his throat. If a rubber hand bulb is used, its compression once or twice on each side of the uvula will be sufficient for a first application. It is not necessary to use the entire contents of the cup; but that which remains may be emptied into the cup of No. 5, which, when made sufficiently hot, is used in the same manner as was No. 4. The spray from this instrument is thrown upwards and forwards, reaching the entire anterior surface of the cavity, cleaning perfectly the posterior nares and reaching the surfaces of the turbinated processes. The same caution as to the length of the application must be observed. As the patient becomes accustomed to the treatment a larger amount of the medication can be used.

The next step is the employment of spray producer No. 1. The cup is warmed and charged as before with pure vaseline, to which is added about a grain weight each of the eucalyptol and gaultheria mixtures, with 5 drops of the *pinus* compound. The application is freely made to all the parts exposed through the mouth. No 2 is now charged with the vaseline and eucalyptol mixture. The nasal speculum is inserted into one nares, the spray producer is passed along the blade of the instrument, and the hot spray is thrown in until every portion of the nasal cavity is reached, when it is repeated on the other side. This procedure is facilitated by raising and depressing the free end of the instrument during the act of treatment. The patient is now told to clear his nose and, that being accomplished, a second but slighter application is made so as to leave a thin film of vaseline upon the mucous surface. In making these applications it must be remembered that, while vaseline is used in each of the four spray producers, the addition of eucalyptol is confined to Nos. 4, 5 and 2; that the four remedies are to be combined only when spray producer No. 1 is used.

A careful inspection after each application will demonstrate how completely melted vaseline will remove from the mucous surfaces all secretions, recent or inspissated. Where a considerable volume of water applied with force would be necessary for the purpose, a spray of an inconsiderable amount of hot vaseline loosens, detaches the secretion, and allows it to be discharged without violent effort. A single treatment is often sufficient to demonstrate fully the antiphlogistic action, as shown in the lessening of the local irritation of the mucous membrane and in the increased comfort of the patient.

These applications are useful in rhinitis in its various forms and many sequelæ: in nasal and bronchial catarrh; in acute and chronic tonsillitis; in pharyngitis and laryngitis; and in that indefinite condition of "bad cold" which, unchecked, may result in serious forms of disease. They are peculiarly valuable when exhibited before exposure to intense cold and damp night air, and not infrequently exert a decided prophylactic agency after such exposure. The results which I have obtained from this treatment have invariably been good. In many instances I have succeeded in aborting acute attacks; in many others I have obtained a speedy convalescence. I have abandoned the use of the water douche entirely, having found from the employment of the hot vaseline spray an agent which produces no local irritation when used, and much more powerful in effecting good results.

The applications should be made at intervals of from twelve to twenty-four hours until the severity of the symptoms is relieved, and then every second or third day as necessity demands. It must be

¹ The specimen of *pinus canadensis* used should be that which retains its original color; that which has been refined is almost useless.

borne in mind that the pressure of compressed air should in no instance exceed that of six pounds; a violent spray is always to be avoided.

In the many letters of inquiry which I have received the question has invariably been asked as to where these special instruments may be obtained. I therefore state, in conclusion, that the A. M. Leslie Surgical Instrument Company, of St. Louis, make a specialty of these instruments, and that the care with which they are constructed has always given me satisfaction.

Headquarters Division of the Missouri, Chicago, December, 1888.

REPORT ON A CASE OF CEREBRAL ABSCESS.

Read before the Kalamazoo Academy of Medicine, July 24, 1888.

BY RUSH McNAIR, M.D.,
OF KALAMAZOO, MICH.

On July 6, I first visited Mrs. W. She complained of a severe, dull pain in the hepatic region; pains shooting up behind the left scapula and into the left shoulder; and frontal pain. She had had one slight chill. Her pulse was 110, and full; her temperature 100°; her tongue clad in a dirty, yellowish coat; her bowels constipated; her urine of a reddish hue.

An arterial sedative, an anodyne, and an alternative followed by a saline cathartic gave her such relief that the following day she went about her usual household labors and walked over two miles to do some trading.

On July 8 she applied to my colleague, Dr. Osborne—her symptoms much the same as already recorded. Dr. Osborne's prescription of a vigorous alternative again brought her relief.

On July 14, upon call, I found her suffering from frontal headache and desultory thoracic algias. Her tongue betokened no marked pathological condition. Her pulse numbered 70, and was soft in character. She stated that the frontal pain diurnally came on in the morning. I prescribed acetanilid, in 6-grain doses so long as the pain should last, and an antiperiodic dose of quinine sulphate. Her husband informed me the same evening that the "headache powders" had quickly stopped the pain, that she was comfortable, but desired that I should visit her in the morning.

The next morning, July 15, her temperature, at 10 o'clock, was 99½°; her pulse 84, and soft; her eyes were suffused and congested. She complained of a very severe pain over her left ear and in her forehead. Her bowels having become constipated, she was given an alternative cathartic, and for the rest continued the medication of the previous day. At this time I noticed slight errors of sense perception, but attributed it to the hemi-

The next day, July 16, she early had free alvine dejections and during the forenoon enjoyed immunity from pain, ate with relish and went about the house. Suddenly, at 1:30 P.M., she complained of faintness. Unconsciousness and spasm successively followed.

I saw her at 3:30 P.M. She was unconscious; her right hand closed; right forearm in violent clonic spasm; her eyes widely dilated and responding feebly to light; her pulse 130, and tense; her axillary temperature 99°; her respirations 36. I administered morphine, bromide of potassium and digitalis. By 9 P.M. she was free from spasm and had recovered herself to the greatest extent that she at any time attained. Her then condition was: pulse 100, and soft; temperature 99½°; pupils symmetrically varying from extreme dilatation to pin-head contraction; complete loss of control over the right upper extremity; amnesic aphasia¹ and bradyphasia; perception active; her expression dazed and melancholic; reflex action in the paralyzed side limited; otherwise vital phenomena were apparently intact. My diagnosis was intracranial hæmatoma.

Of the woman's history I had no knowledge, save that she was the mother of four living children and was asserted to be an unusually arduous and painstaking worker. Her age was 32 years, and her appearance denoted at least ordinary physical vigor. Her previous health was said to have been excellent. She had never required the services of a physician except at her confinements—about which there was nothing remarkable, except at one instance twins were born, of whom one was dead.

Dr. Osborne visited the patient with me in the evening, and his prescription of a small dose of morphine combined with chloral and bromide of potassium, twice repeated during the night, secured for her peaceful sleep.

In the morning of the following day, July 17, her objective condition was much the same. At times, however, for brief periods, she was almost maniacal. There having been no action of the bowels an alternative was exhibited—followed by hourly teaspoonful doses of magnesium sulphate until copious catharsis was induced.

The paresis gradually extended. By the third day following the convulsion complete aphasia, complete right hemiparesis and incontinence of urine and feces had resulted. The temperature ranged from 99° to 100°; the pulse varied—never exceeding 110, and at times, for a considerable period, falling to 50 beats a minute; the respiration rate rose to 26 and became slightly stertorous. Except when aroused her right eye turned out—producing divergent strabismus. Her face took on a cyanotic hue. Evidently, only surgical procedure could be of avail.

Dr. Bosman, who was requested in consultation

¹ Landois' Physiology, p. 730. Sec. II, note 2, lines 6, 7, 8.

and who until the termination of the case lent me fraternal sympathy and advice, united with Dr. Osborne and Dr. Snook in this prognosis. The consent of the family having been given, an operation was determined upon and the succeeding day, at 10 A.M.,—the fifth day after the convulsion—was set as the time.

Her condition at the time of the operation was, in the main, as last described; any change therefrom being due to progressive paresis. The coma was more profound, control over the muscles of deglutition markedly impaired, cyanosis deepening, respirations stertorous. Her temperature was 99°; her pulse 60, and at fair volume; reflex actions in the paralyzed side not entirely wanting. Apparently, she could not live to exceed four days.

There were present at the operation, Drs. Mottram, Osborne and Bosman, who gave me generous and efficient direction and advice. The scalp was shaved and cleansed early in the morning and wrapped in cloths wrung from a 1:600 sublimate solution. For the reasons that the paralysis was of the right half of the body, that the severest pain was located in the left frontal and left parietal regions, and that she employed her right hand in writing (although in all other manipulations she was said to be ambidextrous), the lesion was held to be of the left cerebral hemisphere. Chloroform was administered. With an aniline pencil I delineated the recognized lines of cranio-cerebral topography. The alveoli-condyloid, from the alveolar process of the sub-maxilla to the extremity of the occipital condyles; perpendicular to this line through the external auditory meatus was drawn the auriculo-bregmatic line; two inches behind the auriculo-bregmatic, and parallel with it, was drawn the post-auricular-bregmatic line; from the external angular process of the frontal bone a line was projected backwards parallel to the alveoli-condyloid; from the point of section of the auriculo-bregmatic and fronto-lambdoid was drawn the Rolandic line to the point of section of the posterior auricular bregmatic and the imaginary median bregmatic lines. Upon the Rolandic line as the major axis a parabola-like incision (curve downwards) was made, the integument and tissue beneath, down to the periosteum, were dissected back, likewise the periosteum was reflected. The trephine was applied over the Rolandic line as a diameter, the center of which nearly coincided with the mid-point of the Rolandic line.

Upon removing the button of bone the dura mater presented a normal appearance. The finger recognized no abnormal centrifugal pressure. Going below, a second button of bone—its centre in the Rolandic line and its margin intersecting the first aperture—was removed. Here, also, the dura presented a normal appearance. I punctured the dura and enlarged the opening with a blunt-

pointed bistoury. Introducing a blunt probe and keeping between the membranes, I explored the circumjacent regions. A section of the membranes was made, but the cortex cerebri revealed to the eye and finger no pathological condition.² In the opinion of the surgeons present there were absolutely no local pathological appearances that would suggest or justify a further search. Reluctantly we abstained from further dissection, cleansed out the wound, laid a drainage of shreds of sublimate gauze, introduced two stitches, dusted on iodoform, and completed the dressing with sublimate gauze, absorbent cotton and a recurrent capital bandage.

She had taken the anæsthetic kindly. Her pulse continued slow (50 per minute) and full throughout the operation, which lasted about one hour. Immediately consequent on the operation, her perception and intellection were improved—a result of the slight hæmorrhage which had occurred, and of the encephalic anæmia produced by the anæsthetic.

Late in the evening the pulse grew more rapid and weak, respirations increased in frequency and became more stertorous, pupils contracted, coma progressive. She died nineteen hours after the operation.

Autopsy twenty-eight hours after death: present, Doctors Mottram, Osborne, Bosman and Snook. Rigor mortis was established. The cadaver presented a well-nourished appearance. A large lune of the calvaria having been lifted, the dura mater presented a normal appearance. Upon removal of the meninges the cerebrum also presented an appearance free from pathological conditions. The blood that filled the external cerebral veins was dark blue in color. Upon section there was found occupying the interior of the anterior third of the left cerebral hemisphere, an unencapsulated abscess, having flaccid irregular walls and containing about 1½ ounces of greyish-yellow pus, not fetid, and free from cerebral detritus. In places the abscess wall was within ⅓ of an inch of the surface. The abscess in its backward progress had encroached upon and eroded the centres of speech and of motor dominance over the right upper extremity. The posterior wall of the cavity was almost directly beneath the margin of the anterior superior quadrant of the first aperture. Had I thrust the probe or aspirating needle about ¼ of an inch downwards and forwards into the cortex, I would have entered the cavity. No other pathological condition was revealed by the post-mortem examination.

Remarks.—No theory of etiology was formed prior to the termination of the case. Two ante-mortem conditions have been since elicited which furnish possible origins, viz.: (1) a left suppurative middle otitis of a year and a half ago, which

²Vide *Am. Journal of the Med. Sciences*, Vol. xcvi, No. 1, p. 30, last lines, for a case similar in lack of visible lesion.

had readily yielded to antiseptic irrigations; (2) a constitutional specific disease, accompanied by typical manifestations, of twelve years' standing, which had received in its early stage approved treatment by a regular physician.

This may be classed with those cases of cerebral abscess to which E. C. Spitzka³ refers as "varying from the latent form to forms with obscure general symptoms, whose recognition is impossible, or at best a matter of conjecture." Among other ways, the case is noteworthy by reason of the unannounced local magnitude of the lesion; by the precipitate onset of the paresis; by the similitude of the symptoms to those caused by intra-cranial hæmorrhage. It is noteworthy, also, perhaps, as furnishing contributory evidence to prove the accuracy with which encephalic lesions may be located, and adding force to the query,⁴ to what extent is a surgeon justified in exploring the cerebrum for lesions non-traumatic, when the removal of a button of bone and section of the meninges reveal a normal appearance of the cortex?

MEDICAL PROGRESS.

TREPHINING IN MEDIASTINAL ABSCESS.—At the meeting of the Medical Society of London on Oct. 15, MR. CHARLES A. BALLANCE read an interesting paper on a case in which the gladiolus sterni was trephined for pus pent up in the anterior mediastinum. The patient, æt. 35, was admitted into St. Thomas's Home on August 31, 1887, complaining of a discharging abscess over the front of the upper part of the chest, accompanied by constant and severe pain and great tenderness along the breast bone; also of fever, anorexia, loss of strength, and want of sleep. There was a history of inflammation of the lungs two years before; for three months there had been mid-sternal pain, and a lump had formed, into which an incision had been made and much pus evacuated. This was followed by a discharging sinus, which, on admission, was found to lead down to bare bone at the left second costo-sternal articulation, and the probe could be passed still further into a space behind the gladiolus. The sternum itself was acutely tender on palpation, and was the seat of constant dull, aching pain. Another swelling had formed over the left fourth, fifth, and sixth costal cartilages, and the discharges from the old sinus was less copious than usual. Two days after admission the lower swelling was incised, and the old sinus laid freely open. During the next five days rigors occurred, and it was decided to explore behind the sternum for pent-up pus. Two trephine holes were made,

and the intervening portion of bone cut away with forceps. The bone removed was found permeated by pus, and on looking into the anterior mediastinum a layer of thick creamy pus was seen on the front of the pericardium; this was carefully syringed away, and much carious bone was then scraped by means of a Volkmann's spoon from behind the sternum. Finally the wound was irrigated with sublimate lotion, packed with wet sublimate dressing, and covered with a dry dressing of the same character externally. The patient made a rapid and complete recovery, the sternal opening becoming filled in by fibrous tissue. Mr. Ballance was not aware of any case in which treatment had been applied to the posterior surface of the gladiolus. He took it from the first that the illness of the patient two years before had been puerperal or septic in origin, and had left some focus of disease in the interpleural space. By scraping the posterior surface of the gladiolus he could not hope to eradicate all the germs of the disease, and the completely successful issue of the case was, he thought, in no small degree due to the constant association of the diseased surfaces during convalescence with corrosive sublimate. The sternum had been trephined for abscess or foreign body in the mediastinum, for paracentesis pericardii, and the operation had been suggested in order to facilitate the ligation of the innominate artery. The two most prominent symptoms of mediastinal suppuration appeared to be dyspnœa and constant severe pain.—*Lancet*, Oct. 20, 1888.

THE SURGICAL TREATMENT OF PURULENT PERICARDITIS.—The successful case related by DR. DICKINSON at the last meeting of the Clinical Society will again direct attention to the treatment of purulent pericarditis by free incision and drainage, whilst the record of the case described by Mr. Parker at the same meeting will serve to show with what care the operation must throughout be performed that it may be successfully accomplished. Dr. Dickinson's is now the third published case treated by incision and drainage that has recovered. Notes of the two former cases were given in a paper read before the Royal Medical and Chirurgical Society, in 1883, by Dr. S. West, and published in vol. xlvii of that Society's *Transactions*. The first case was one of Professor Rosenstein, the patient being a boy aged 10; the second case was that of a boy aged 16, treated by Dr. S. West; and now this third case (Dr. Dickinson's) was also a boy, whose age was 10. Many fatal cases have besides been recorded, so that the operation may not be lightly undertaken. Purulent pericarditis, however, is usually so fatal a disease that severe measures may be justifiably employed for its treatment; and, although the physical signs which accompany it do not always enable the physician to

³Pepper's System of Medicine, vol. v, p. 799.

⁴The question was brought up by Dr. H. B. Hemenway, before the Kalamazoo Academy of Medicine, and discussed by its members.

diagnose with certainty between it and serous pericarditis, it is always possible to undertake a puncture for diagnostic purposes. With regard to this especial point of the diagnosis, it is to be noted that in purulent pericarditis a friction-sound is usually absent; but, the diagnosis having been settled by the exploratory puncture, and treatment by incision and drainage determined upon, the place of puncture must be settled. It is usually recommended to make the incision in the fourth or fifth left intercostal space; but in Dr. Dickinson's case the fifth right space was chosen by Mr. Rouse, the operator. Mr. Godlee at the meeting exhibited some drawings showing the relation of the internal mammary arteries to the edge of the sternum in children, from which it appeared that if the operation is done very close to the sternum the vessel of the side selected is very apt to be wounded; and he recommended that the vessel should be cut down upon and tied before the pericardium is opened. Dieulafoy recommends the fifth left space, about one inch from the edge of the sternum, as the best site for puncture with the aspirator. The purulent pericardial sac being opened, and the fluid drawn off, the relief to the patient is usually at once extreme; the pus should then be allowed to drain away through a tube until recovery ensues. The drainage was facilitated in Dr. Dickinson's case by the patient being placed face downwards in bed. The elasticity of the pericardium further tends to empty its cavity. Altogether, it is allowable to hope that a fair chance of success will attend this operation in the future when it is undertaken with full antiseptic precautions.—*British Medical Journal*, Dec. 1, 1888.

BAVARIAN PLASTER JACKET FOR FRACTURED SPINE. MR. T. R. HUMPHREYS says: In a recent case of fracture of the mid-dorsal region of the spine, the result of an attempted suicide, the patient becoming unmanageable, it was determined to put her up in a plaster jacket. On the third day after the accident, with the help of two nurses from the Hampstead Nursing Association, we set about it as follows: We took two pieces of house flannel, one $2\frac{1}{2}$ yards long, $\frac{3}{4}$ of a yard wide; the other about 2 inches less in width, and 40 inches in length. We passed the longer piece under the patient in the same way as a draw-sheet; it reached from the acromial process to the lower part of the sacrum. The two sides were now brought together in the middle line in front, and sewn as close to the skin as possible. The axillary portion was split, the edges pared, and shoulder straps attached. Next, the extra pieces of flannel in front were split in about eight pieces, nearly down to the stitching, and the alternate pieces tied together round a clothes prop, cut about two inches shorter than the bed, so that it could be lifted straight up without danger of

knocking it against the bed. The strips were carefully tied, so as for them all to be of the same tension when the weight came on them, and the patient was then lifted clear off the bed without pain or inconvenience. I omitted to say that the lower limbs and the head were supported by a towel tied in a similar manner round the pole, which was then braced up to another one, which had been previously placed on the head and foot rails. The second piece of flannel was then dipped in the plaster mixture and applied to the first piece, muslin bandages wound round the whole, passing through the spaces left in front by the alternate strips of flannel alone being tied. It became necessary a few days later to send her into hospital, as she grew unmanageable, and she made the journey with the greatest comfort in a greengrocer's cart to a hospital, about three miles away.

It is advisable to sew the shoulder straps on to the back part, before placing it under the patient. It is hardly necessary to point out the advantages and comfort of this plan of treatment.—*British Medical Journal*, Dec. 1, 1888.

GUAIACOL.—Guaiacol is a highly refractive, colorless liquid, with an aromatic smell, slightly soluble in water, readily so in alcohol and fixed oils. The statements made by Sommerbrodt and Fraenkel as to the benefits derived from the administration of creasote in phthisis led Sahli to try guaiacol, which has advantages over creasote in that it is of definite composition, and has a less unpleasant taste and odor. Sahli prescribed it thus:

R. Guaiacol puriss ℥xv to ℥xxx.
Ad. destill ʒvj.
Sp. vin. rect ʒvj.

A teaspoonful to a tablespoonful two to three times a day after food, in some water.

The solution should be kept in a colored bottle, as exposure to light causes the deposition of a resinous substance.

Sahli likewise administered the guaiacol in cod-liver oil. He found it improve appetite, loosen and diminish expectoration, besides ameliorating general discomfort and relieving pain.

Schüller caused his phthisical patients to inhale the vapor of a watery solution of guaiacol, and gave, in addition, extract of guaiacum-wood in pills. He states that his patients improved under this treatment.

Fraentzel (*Deutsch. Med. Woch.*, 1888, No. 7, p. 138) has used guaiacol in more than a dozen cases. He considers it the active constituent of creasote, and recommends the following formula:

R. Guaiacol ʒiijss.
Tr. gent ʒi.
Sp. vin. rect ʒviij.
Vin. xerici q. s. ad Oj.

One tablespoonful two to three times daily, in a wine-glassful of water. He strongly advocates its use.

Horner says he has employed guaiacol for four years at the General Hospital at Zwickau in the treatment of tuberculosis. He gives it in pills containing about three-fourths of a minim, commencing with one thrice daily after food, and gradually increasing the number of pills to ten in a day. Under this treatment, combined with careful diet and hygienic precautions, he thinks he has seen complete cure of cases of phthisis when not far advanced, and improvement even in those of long standing. In many cases the appetite improves, the bacilli decrease, the cough and fever and expectoration diminish; night-sweats disappear, and the patients improve in strength. In some cases no distinct effect follows, but the drug never produces any untoward results. Most patients take it very well, and only a few object to it.—*Therapeutic Gazette*, October 15, 1888.

THE ACTION OF ANTIPYRIN IN MENSTRUAL COLIC.—The well-known reflex inhibitory action of antipyrin, as determined by Demme and Sée, led Dr. WINDELSCHMIDT (*Medicinisch-Chirurgische Rundschau* September 1, 1888) to employ antipyrin by means of enemata of 30 grains in severe cases of cramp and colic during menstruation. It is stated that it proved to be an excellent sedative in such cases, its action ordinarily occurring within half an hour, although in some cases the injection had to be repeated after twelve hours. In two cases especially referred to, where, after nearly every very well-known method of treatment had failed to prevent most violent pains and colic lasting through the entire eight days of menstruation, injections of antipyrin in the morning and evening produced the most wonderful success; ordinarily this relief was accompanied by narcotic effects, the patients falling asleep and waking entirely free from pain; no unfavorable action, with the exception of profuse sweating and frequently slight ischuria, were ever observed. For prevention of collapse a glass of wine is ordinarily administered.—*Therapeutic Gazette*, Oct. 15, 1888.

ELECTRO-PUNCTURE IN PARENCHYMATOUS GOITRE.—DR. H. WEINBAUM, Kovel, Russia (*Wratch*, No. 27, 1888), describes two cases of soft goitre permanently cured by electrolysis. The treatment consisted in galvanic electricity, applied for from ten to fifteen minutes at a sitting, and supplied by a battery of 20 cells connected with two golden needles, which were thrust several millimeters deep into the tumor at two diametrically opposite spots. Only moderately strong currents were used. In all, 150 sittings were made in the course of eight months. The tumor gradually dwindled away. When seen lately, about a year after the end of the treatment, the patient was in flourishing health; not a trace

of the swelling could be detected. In the second case only a slight tumefaction about the right lobe remained after 50 sittings. Dr. Weinbaum tried the same plan also in a case of dense fibrous goitre, but failed to obtain anything beyond a trifling diminution of the cervical circumference, though more than 200 sittings had been made.—*Annals of Surgery*, October, 1888.

PECULIAR EYE SYMPTOMS IN ASSOCIATION WITH ERYTHEMA NODOSUM.—MR. BICKLE, of Mount Barker, South Australia, records several cases in which, during the course of an erythema nodosum, phlyctenulae appeared on the conjunctivæ, running an acute course and disappearing in about ten days. He had at the time no cases of phlyctenular or catarrhal ophthalmia. He has not found any notice of such a concurrence having been observed before. The sole quotation bearing on it is one from Meyer, of Paris, who says: "The concurrent appearance, either before or after its commencement, of cutaneous eruptions of the eyelids or of the surrounding skin, such as eczema or zoma, seems to point to phlyctenular conjunctivitis as an exanthematous disease of the mucous membrane depending on the ciliary nerves."—*The Australasian Medical Gazette*, August, 1888.

WOUND OF THE CERVICAL SYMPATHETIC.—ISRAEL relates a case of excision of a cervical tumor, in which the symptoms of paralysis of the sympathetic were produced by the operation. A man of 57 years of age was suffering from a large cancerous growth involving the glands and adjacent parts of the neck. After the large vessels and vagus had been carefully separated from the growth, it was found to be impossible to entirely free the sympathetic, and a considerable piece of it was excised. The patient recovered from the operation, but the moment after its performance the following symptoms were observable: contraction of the pupil, and diminution of the ocular aperture, followed the next day by redness of the ear and corresponding side of the face, and considerable swelling of the right (corresponding) side of the tongue. The pulse was in no wise affected.—*Contrib. f. Chir.*, 1888.

FÆCAL FISTULA OF THE UMBILICUS.—M. PEDENAT has successfully treated by electrolysis a case of fæcal fistula of the umbilicus. The patient had formerly suffered from intestinal obstruction. Seven sittings completed the cure.—*L'Union Médicale*.

DR. GALEZOWSKI (*L'Union Médicale*, Feb. 16) recommends the following ointment to relieve the pain of neuralgia: R. Menthol, 0 gr. 75 centgr.; cocaïn., 0 gr. 25 centgr.; chloral hyd., 0 gr. 15 centgr.; vaselini, 5 grams. M. ft. ungt.

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SATURDAY, JANUARY 5, 1889.

SALUTATORY.

"Whoever thinks a faultless piece to see,
Thinks what ne'er was, nor is, nor e'er shall be."
POPE.

In assuming editorial charge of this Journal, I prefer to make no promise now, but to let the manner of performance tell its own story, and take the place of previous promise. I am fully aware of the great responsibilities of the task, and of the great interests of the Association to be upheld by THE JOURNAL; but the fact is recognized that the strong and active coöperation of the members of the oldest, largest and most successful Medical Association of America, will make the work easy, and in proportion to that coöperation, THE JOURNAL will correspondingly benefit the Association.

The relative value of THE JOURNAL to its membership will depend upon the faithfulness with which it mirrors the existing state of medical knowledge as taught and practiced, and I therefore ask for the indulgence of the Association, frequent articles from the members, and their coöperation in increasing the membership.

The Association should double its membership in the next year, and it could be done easily by each one bringing in an additional member by application; all that is needed to make THE

JOURNAL as great as any in the world, is to bring up the numbers to the maximum. The British Medical Association now has nearly 15,000 members, and when the total number of physicians in the United States is considered, it will be seen that at a comparatively low estimate the American Medical Association should have 20,000 members.

Let THE JOURNAL and its readers then mutually work to the attainment of that desired result, and the glories of the past history of the Association may be far eclipsed by its future. Let us remember that in union there is organized strength, and with equal pace and elbows touching march on with patriotic and fraternal spirit to the attainment of the object sought.

JOHN B. HAMILTON.

THE RETIREMENT OF DR. DAVIS.

The voluntary retirement of DOCTOR DAVIS should strike none with surprise. He has well earned at the hands of the American medical profession his many honors, and now he has arrived at an age, when life is no longer necessarily a warfare, and the peace he desires is his by right.

When one has passed his three score and ten years in constant work, he has the right to engage himself during the remainder of his life in such pursuit of enjoyment as is most congenial to him, and most free from care. He has not retired from his medical school, or his practice, and he will continue to perform much more labor than most men; but it became a question with him what particular care would most relieve him were he free from it, and so he chose to consign the management of THE JOURNAL, now on a firm and enduring basis, to other hands. He has had many evidences of the love and esteem of his professional brethren, but none which have not been fairly won.

To recount the record of his services to the American medical profession is almost to write the history of the profession itself. As an active and aggressive reformer from the time he read his thesis in 1837 to his recent arguments relating to medical education, he is without an equal

in the profession. He is affectionately known as the "Father of the American Medical Association," because at the meeting of the New York State Medical Society in 1845 he offered the resolution which resulted in the holding of a National Convention of Delegates from Medical Colleges and Medical Societies of the United States. "In November of the same year, he published an article outlining the purpose and scope it was deemed important that the National Convention (called for May, 1846) should recognize in its organization. He also furnished information on the subject to Medical Journals that noticed the call, and conducted an extensive correspondence with influential medical gentlemen in almost every State in the Union. In the spring of 1846 he published an article on the "National Medical Convention." He had however outlined his views as to the Convention in a letter written from Binghamton in 1845.

In Medical Journalism his hand has been an active one. "His association with the *Northwestern Journal* began in 1855,"¹ and he founded the *Medical Examiner* in 1860 the successor of which is to-day one of our most valued contemporaries. It was consolidated with the *Chicago Medical Journal* and is the well-known *Chicago Medical Journal and Examiner*. The foundation of THE JOURNAL of the Association, now conceded to be about the only Medical Journal in America which goes everywhere, will make an interesting story, which we hope to have the pleasure of presenting to its readers from the pen of Dr. Davis at no very distant day. In the meantime while all his friends unite in congratulations on his long and useful life, the Editorial Staff of THE JOURNAL hope to be not far removed from his wise counsel, and in view of the results of his labors, we feel like heeding the Scriptural injunction "Let not him that girdeth on his harness, boast himself as he that putteth it off."

THE YELLOW FEVER EPIDEMIC OF 1888.

A special volume on the yellow fever epidemic of 1888 is now in course of preparation by the Supervising Surgeon-General of the Marine Hospital Service. It will include the following special reports, and will be prefaced by an introduction

by the Surgeon-General. It is hoped that the volume will be issued early in February.

The following is a plan for the volume on the epidemic of yellow fever, 1887-8:

1. The Fever at Key West, 1887, by J. Y. Porter, M.D., Captain and Assistant Surgeon U. S. Army, etc.
 2. The Fever at Tampa and Plant City, Palmetto and Manatee, by John P. Wall, M.D., President Hillsborough County Board of Health.
 3. The Fever at Jacksonville, by J. Y. Porter, M.D., etc.
 4. The Fever at Fernandina, by J. W. Ross, M.D., Surgeon U. S. Navy.
 5. The Fever at Gainesville, by Wm. Martin, M.D., Assistant Surgeon U. S. Navy.
 6. The Fever at Enterprise, Green Cove and McClenny, by J. L. Posey, M.D., Acting Sanitary Inspector M. H. S.
 7. Camp Perry and the Inspection Service, by W. H. H. Hutton, M.D., Surgeon U. S. Marine Hospital Service.
 8. Observations on the Diagnosis and Treatment of Yellow Fever, by John Guit  ras, M.D., Passed Assistant Surgeon M. H. S.; C. Faget, M.D., Acting Medical Officer in charge of the yellow fever camp; and Sollace Mitchell, M.D., Physician to the Sand Hills Hospital.
- This will give a very comprehensive report, from persons actually engaged in the work, and all reports on the fever at special places will include an account of the measures taken by local authorities and the Government, as well as the history of its introduction and spread, and will be of great value to the subject of epidemiology.

PUBLIC MISREPRESENTATION OF CONGRESS.

"The absent and the dead are always wrong." This old saying received a new illustration at the meeting of the American Public Health Association in Milwaukee. The Secretary of the Board of Health of Illinois, read a paper in which he held Congress up to ridicule for its refusal to pass a bill to resuscitate the National Board of Health, while at the same time it had offered a prize of \$100,000 for a yellow fever cure. We are told by one of our contemporaries that this officer grew both eloquent and facetious while he "scored Congress," and that the audience applauded the sentiment with great unanimity. The fact is, Con-

¹ (Dr. J. M. Toner) in Biographical Encyclopedia of Illinois.
² J. M. Toner. *Ibid*.

gress never offered any such prize; a bill was introduced by a Senator because some "crank" asked him, and it was referred to a Committee where it still sleeps. It has not been *considered* by the Committee, much less reported, and it has a chance of becoming a law as infinitesimal as some of the schemes for the utilization of out-of-town sanitarians, most of which appear under an alias, and all of which have more or less eloquent, facetious and energetic public functionaries to urge their passage.

EDITORIAL NOTES.

DR. F. V. FLOOR, of Youngstown, Ohio, died Dec. 12, aged 52 years. He was a graduate of the University of Pennsylvania.

THE Bill to "regulate appointments in the Marine Hospital Service" passed both Houses of Congress just before adjournment. It now only awaits formal engrossment and signature to become a law.

SENATOR CALL, of Florida, has introduced a joint resolution which was referred to a Senate Committee, giving thanks of Congress to the medical officers engaged in the work of suppressing the yellow fever epidemic in Florida.

THE MEDICAL TIMES, of Sacramento, California, Dr. J. H. Parkinson, Editor, is to commence the year 1889 with an increase in the number of its pages; a reduction in price to \$2 per annum; and a change of name to *Occidental Medical Times*.

THE STIMULUS OF ASSOCIATION.—With twenty thousand members, the Association will have such power as to make itself felt in all public matters in which the profession are interested. Let therefore all hands unite in strengthening the Association. Let it grow in usefulness by increasing its domain.

THE ILLINOIS STATE BOARD OF HEALTH.—The movement of certain secular papers of Illinois against the State Board of Health, to which reference was made in a recent number of THE JOURNAL, is not deserving of support or sympathy from any member of the profession. The Board has evidently attempted to carry out the law in good faith, and should therefore be warmly sustained. The abolition of the State Board of

Health would be a public misfortune, not only to the people of Illinois, but to those of certain other States, where Boards of Health are having a hard struggle for existence. The personnel of the Board might be improved, but that is a question altogether foreign to that of its entire abolition.

NOVEL CASE OF DROWNING.—It is reported that a man well under the influence of alcoholic liquor recently went into a saloon in Trenton, N. J., and called for a glass of beer, which was given him on a table at which he was seated. He was soon observed to be leaning forward upon the table as if in a sleep or stupor. "When the barkeeper tried to arouse him, half an hour later, it was found that he was dead, his nose being immersed in the liquor in such a way that respiration was completely stopped." Many cases have been reported of persons having been drowned in but little depth of water, but this is the first case reported of a man drowning himself in a glass of beer.

CATTLE DISEASE FROM SMUTTY CORN.—State Veterinary Surgeon Atkinson, of Milwaukee, has been called to investigate a cattle disease that appeared recently in the northern part of Jefferson County, Wis. The cattle are taken suddenly, and die in a short time. It is his opinion that the disease is caused by feeding the cattle smutty corn, of which there is an abundance. Farmers who picked out the smutty corn before feeding have no sick stock. It is well known that the eating of smutty corn by cattle causes abortion. The cases are probably examples of acute ergotismus, if we may apply this term to affections caused by maize smut.

AN INTERNATIONAL YELLOW-FEVER COMMISSION.—Mr. Phelan, of Tennessee, has introduced a Bill in the House of Representatives, "to provide for the appointment of a board of yellow fever commissioners to investigate the sanitary condition of foreign infected places, and to provide for the coöperation of Spain and Mexico." The Bill limits the operation of the work to two years. There are to be five members, of whom one each to be detailed from the medical corps of the Army and of the Navy, two from civil life, and the Surgeon-General of the Marine Hospital Service to be *ex-officio* Chairman. They are authorized to employ a microscopist, two clerks,

and a topographer. It is further provided, that Spain and Mexico, shall be asked to appoint Commissioners to coöperate. No action has yet been taken on this Bill except to refer it to the Committee on Commerce.

SULPHUR FUMES IN DISINFECTION OF VESSELS.

—The amount of sulphur dioxide required for the proper fumigation of the holds of vessels, and the best means of obtaining it, have been subjects of recent letters to the Surgeon-General of the Marine Hospital Service by P. A. Surgeon H. R. Carter and Assistant Surgeon J. J. Kinyoun (weekly abstract of sanitary reports).

A larger percentage of SO_2 than is obtained by the ordinary pot or open furnace method is necessary. Dr. Carter says: "It would seem that the most perfect combustion (of the oxygen, I mean, for the sulphur is in excess), would be accomplished by a hot blast forced through tuyères (or a pipe perforated with small holes might do better), through molten sulphur, or projected with some force on the surface of molten sulphur."

Dr. Kinyoun states that air containing 10 per cent. of SO_2 proved germicidal to all spore producing micro-organisms that he experimented upon, the time of exposure being between twenty-four and ninety-six hours, but that SO_2 in any strength had failed to kill the spores of anthrax.

Dr. Kinyoun erected an experimental furnace for the evolution of SO_2 , upon the principle of a reverberatory furnace. The furnace was rectangular, the perpendicular being about three times greater than the horizontal diameter. Three sides were of brick, the fourth was a closely fitting iron door. The inside consisted of a series of shelves, one above the other, for holding the pans of burning sulphur. The shelves were made insufficient at their right and left sides alternately, thus leaving air spaces and causing a column of air, which was forced in by means of bellows at the bottom, to pass over each shelf with its pan of burning sulphur before reaching the space above.

The top was provided with a pipe for conveying off the gas and an aspirator for measuring its percentage. Repeated experiments gave from 14 to 16 per cent. of SO_2 at a temperature of 21°C ., while ordinary burning of sulphur in a closed space at the same temperature gave only 6 per cent.

The principle brought out in the above experi-

ment is to be practically used in the construction of the new disinfecting vessel which is being constructed for the Marine Hospital Service at Chant-deleur Island.

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, November 1, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D.,
IN THE CHAIR.

DR. L. J. HAMMOND reported a case of

PYOSALPINX.

N. J., æt. 22 years. Had one child three years ago. Since that time she has not felt well, having frequent attacks of pain in the pelvic region, confining her to bed for weeks at a time. About nine months ago she had a hæmorrhage from the uterus lasting three weeks, followed by a purulent discharge with severe pain and great tenderness of the abdomen, especially low down, necessitating her remaining in bed two weeks. After this time she resumed her occupation, that of a laundress, until four weeks ago, when the pain became so intense she was again obliged to go to bed, where she remained one week without attendance. At this time I found her with a temperature of 100° , pulse of 120, abdomen tympanitic and so very tender she could not bear the weight of my hand upon it, together with menorrhagia. Digital examination was deferred until the next day, owing to the great distention of the bowels with feces, which naturally increased the pain. Upon examination per vagina, I found a uterus very much enlarged, and bound down firmly posteriorly, together with a large boggy mass on the right side, which was very sensitive to touch. An immediate operation was advised, but was delayed, owing to the absence of relations, until October 18, when with the assistance of Dr. J. M. Baldy, the abdominal cavity was opened, and a large abscess with pyosalpinx was removed from the right side, with great difficulty, owing to extensive adhesions. Several small pus pockets were ruptured during the removal, and about an ounce of pus was discharged. The left ovary was not removed, it being apparently healthy. After thorough irrigation a glass drainage tube was inserted, and was replaced on the fourth day by a rubber one, which was removed in twenty-six hours. It is to-day just two weeks since the operation and the patient is well. At no time did the temperature rise above 99°F .

DR. J. M. BALDY said that it had been stated

in the society by a member, that he had never seen pus in a tube primarily. The specimen presented was interesting in that connection, as there had been pus in the tube as a primary condition. There was not pus present then as the specimen had been cut open, and had been for a long time in alcohol. There were two sacs in the ovary, one contained pus, and the other a blood clot as large as a walnut.

DR. M. PRICE, in answer to a question, whether the matter contained in these abscesses was really pus or not, said there could be no question but that it was pus. He was quite sure that it had been examined under the microscope.

DR. B. F. BAER thought that he was the culprit referred to by Dr. Baldy. In the discussion of this subject before the society, last winter, he was reported as having made the above statement, but he had been misunderstood. What he really did say was, that in his experience primary pyosalpinx was a rare disease; that in the uterine appendages which he had removed, the condition was an inflammatory one, involving the tubes, ovaries and pelvic peritoneum, which had resulted in gluing or matting together the organs, but that he had failed to find pus contained in the tubes and nowhere else; that in the pus cases with which he had met, there was a condition of abscess in which it was difficult to tell whether the disease had originated in the tube, in the peritoneum or in the cellular tissue, so extensive was the destruction of the tissues and organs in these cases. It would be a very sweeping statement to say that primary pyosalpinx never occurred, and he did not wish to be misunderstood as making it. His experience during the past year confirms the views which he then expressed.

DR. HAMMOND said there was no question about there being pus in this tube. The tube was larger than his thumb, and thoroughly distended with pus.

DR. GEO. BOYD exhibited a

MULTILOCULAR OVARIAN CYST.

The ovarian cyst which I have to show in connection with the short history of its growth, I think is of some interest.

Mrs. D., æt. 27 years, primipara, I was called to see early last July. I found her advanced in pregnancy. She seemed well with the exception of the fact that both legs were œdematous. This had caused her some alarm. The urine, by analysis, being excluded as a cause of this swelling, it was attributed to venous obstruction by pressure. She fell in labor August 7, and with an easy delivery, gave birth to a female infant, weighing eight pounds. I applied the binder, as is always my custom. The uterus was well contracted and its outline regular. There was no evidence of any tumor. On the eleventh day,

she was out of bed and doing her household duties, feeling well, although the lochia was greater than it should have been. At the expiration of two weeks I left her doing nicely. September 19, about three weeks after my last visit, I was called again to see her. She stated that she was loosing blood, and also that the stomach was swollen. She complained of pain in the left ovarian region. An examination showed a tumor the size of the uterus at the third month of gestation. It occupied nearly a central position, more to the right of the median line, on the opposite side from where she complained of pain. In three weeks more it had attained twice the size and showed marked fluctuation. Dr. Noble saw the case with me, and together, after a careful examination, we diagnosed a thin walled cyst (ovarian or ligamentary). It continued to increase in size rapidly, and now was above the umbilicus. The pain she complained of was growing more severe, and she was loosing flesh. October 18, a little more than two months from her lying-in, with the assistance of Drs. Kelly and Robb, I removed the growth. The operation was of no unusual interest; the cyst was tapped and delivered; there being no adhesions, and the tumor having a good pedicle, it was easily removed. It sprung from the right ovary. The patient has made a good recovery. Her temperature was at no time lower than 99° Fahr. So little was the shock that at the end of the first week, the baby, who had been nursing, was returned to the breast. The points of interest in the case are these: 1. An ovarian tumor, not complicating labor. 2. The operation performed during lactation. 3. An ovarian cyst containing nearly a gallon of fluid, still remaining unilocular.

DR. WM. GOODELL gave the history of a case of

DOUBLE INTRALIGAMENTARY CYSTS.

The woman, æt. 30 years, had been infected with syphilis from which she had suffered with constitutional symptoms. Two tumors had been discovered a year ago. Her health had failed rapidly and œdema of the upper and lower extremities were present. The womb was so closely adherent to the tumors and they were so immovable, that a diagnosis of one multilocular intraligamentary cyst was made. At the operation performed at his private infirmary, October 15th, an intraligamentary cyst of each ovary was discovered, which demanded long and difficult enucleation. They were both extirpated without leaving a pedicle behind. The broad ligament capsules being thin, were torn in shreds. These were trimmed and tied and many bleeding vessels were secured. Deeply seated oozing, from vessels which could not be reached were thought to have been controlled by Monsel's sol. Two other

small cysts were now discovered, apparently wholly independent of the ovarian cysts. As they were too deeply seated and too adherent to the rectum on one side and the cæcum on the other, they were not removed, but were freely incised and cleansed. Many intestinal adhesions had also to be severed in the removal of the larger cysts, which weighed approximately, ten pounds on the left side and five on the right side. After careful and repeated flushings of the abdominal cavity, a large drainage tube was put in. Within two hours, serious hæmorrhage took place and much blood escaped out of the tubes; but as it gradually grew less the wound was not reopened, and in twelve hours it ceased. Five days after the operation, when Dr. Goodell was about to take out the tube, high fever set in preceded by chills, and the tube was therefore not removed. On the next day a deep seated abscess burst and its foetid contents escaped though the tube, poisoning the air of a large room for several days. Later a rubber drainage tube was inserted. Two weeks and a-half have now elapsed since the operation and the woman is doing well. That is to say her temperature and pulse are natural and the abscess has nearly healed up, but her convalescence is retarded by a diarrhœa of long standing, which he attributes to specific disease of the intestines, for which he is giving potass. iodide. He has never heard of a surgeon being infected by syphilitic virus during the performance of ovariectomy, yet he did not see why such an untoward result might not happen; so during and after the operation he was careful to cleanse his hands thoroughly and repeatedly with a sublimate solution. Indeed for several days after the operation, he was quite uneasy about himself, lest he had been inoculated.

DR. GOODELL also showed the *left ovary* of a young girl, 22 years old, which he had removed and which had *two pus cavities* in it. No history of peritonitis could be elicited, yet the pelvic cavity was crossed and recrossed with bands of adhesion as tense as fiddle strings. Many of these pelvic bands and other close adhesions of the ovary proper had to be broken during the operation. The right ovary could not be discovered anywhere, although very careful search was made by both Dr. Goodell and Dr. W. L. Taylor, and although the pelvic floor was pushed up by the hand introduced into the vagina. A small body as large as a bean, which was possibly a rudimentary ovary, was felt in the right broad ligament, but it was so obscured by organized exudation and fastened down by adhesions that no effort to remove it was deemed proper. All the pain was referred by the girl to the left ovary. Dr. Goodell thought that in this case the lesions had come from some exanthematous disease of childhood or from latent peritonitis, just as adhesion bands are often found in the pleura, when no

history of pleurisy can be found. The girl in this case was a virgin and he felt very confident that gonorrhœal infection could be excluded. Owing to a constant oozing of blood the drainage tube was kept in for eleven days, a rubber one being substituted for the glass one at the end of the first week. Not any complications have retarded her convalescence.

DR. B. F. BAER presented a specimen of

BROAD LIGAMENT CYST,

removed by enucleation, which had been tapped seven times in seven years.

Miss A., was sent to him by his friend Dr. S. S. Smith, of Driftwood, Pa., and entered his private infirmary on October 3rd. She is single; 44 years of age; had enjoyed good health until eight years ago, when she found that her abdomen was increasing in size. She also complained of a peculiar pain, "pulling down in the pelvis," as she called it. Her abdomen continued to increase in size, until she had such difficulty in breathing, that she could not walk upstairs without great dyspnoea occurring. She was tapped on Aug. 2, 1882, and four gallons of fluid "as clear as spring water" was removed. She does not think that she had lost any flesh during the early development of the tumor. In nine months she was tapped again and three gallons of fluid removed. Between the first and second tapplings she lost considerable flesh. At about the same interval she was tapped again, and three gallons of fluid removed. She was tapped yearly since August 2, 1882—seven times in all—the last tapping occurring in April of this year.

Two or three years ago she began to flow more freely at her periods, until they became so profuse that she would flow as long as a month at a time. About the same time she noticed that there was a projection from the vulvar orifice which would become larger if she were on her feet and retained her water, and diminished in size after the bladder was empty. She presents an appearance of considerable emaciation and states that she is rapidly losing strength. Inspection shows the abdomen to be distended to about the sixth month of gestation and symmetrical. The abdominal wall is very loose and flaccid. There is a circular scar midway between the umbilicus and pubes; and on questioning the patient, she explains that four years before she had a "running sore" which continued about two years. The suppuration followed one of the tapplings and took place from the puncture. Palpation of the abdomen shows a loose walled cyst in the cavity, which does not seem to be adherent to the abdominal wall. Fluctuations marked. Inspection of the vulvar orifice shows a cystocele about the size of a duck's egg, and also an inflammatory swelling of the left labia majora. The vaginal touch shows the cervix to be near the orifice of the vagina

and to be quite small. The lower part of the tumor is felt very distinctly posteriorly and low down in the pelvis. The uterus is pushed forward and to the right, and occupies a position out of the pelvis above the right groin. The sound passes through the center of the body last described to the depth of four inches and shows it to be positively the uterus. The tumor appeared to have pelvic attachments below the uterus as though it might be an intraligamentous cyst.

Operation October 6th, in the presence of Drs. T. M. Drysdale and Chas. P. Noble, and I was kindly assisted by Drs. J. M. Baldy and J. S. Baer. Incision two inches, and when the tumor was exposed to view it was found to be firmly adherent to several places, to the anterior abdominal wall and to the point opposite the scar (seat of former suppurating-fistulous opening above noted); it was found that the fimbriated extremity of the Fallopian tube, formed this latter attachment. It was this attachment of the extremity of the tube, which had probably caused the elevation of the womb, as that organ seemed to be suspended from the point noted, the Fallopian tube extending from this point downward over the tumor to the uterus, forming a portion of the wall of the tumor. It was also noticed that the outer and upper wall of the tumor was apparently closely adherent to the intestines. So closely related was the tumor to the intestines that it was necessary to carefully select a place where puncture could be made without wounding the bowels. About two gallons of thin fluid, rather straw-colored, was evacuated, when the cyst entirely collapsed. On attempting to draw it out it was found to be so deeply attached that it could not be withdrawn. The upper portion of the cyst wall seemed to consist entirely of the intestines which escaped through the incision when traction was made upon the cyst. They were hurriedly returned and the fingers now carried downwards towards the base of the tumor, where it was found that the entire pelvic peritoneum of the left side was lifted up, that is, the tumor was entirely subperitoneal and without a pedicle. A condition now presented itself which renders this case one of extreme interest. The base of the tumor was so broad, vascular, and so closely attached to the intestines, that to have begun to enucleate below would have been hazardous on account of the danger of rupturing the bowels, as well as from hæmorrhage which would probably have been great from opening of large blood-vessels. We determined that it would be best in this case to begin to enucleate at the point of puncture of the trocar, and it was found much to our satisfaction, that the cyst was readily separated from its outer or peritoneal coat. So readily was this done that it was unnecessary to ligate a single blood-vessel and the enucleation was finished within ten minutes. After the enucleation was completed the

entire peritoneal covering collapsed and disappeared. It contracted so quickly indeed as to make it difficult for me to find its cavity for the purpose of irrigation, which was next done. The thick Fallopian tube was next ligated and cut away, but the tumor itself was entirely without a pedicle and was monocystic as you will see in this beautiful specimen. After irrigating, the wound was closed around a small drainage tube and the patient returned to bed, showing some evidence of shock from the operation, from which she soon rallied. The drainage tube was removed within 36 hours and the patient has recovered. During the third and fourth days the urine was found to contain pus and blood, but on investigation it was found that it probably originated from a former cystitis. The bladder was washed out twice daily with carbolized water and she soon recovered from this condition.

In my experience this case is unique. The cases of broad ligament cysts requiring enucleation with which I have met, have been of such character as to require the application of many ligatures and pressure forceps to control the hæmorrhage during enucleation. Whether this is because I formerly began to enucleate near the base of the tumor, by breaking through the outer covering, or whether it is seldom that we meet with a tumor so easily enucleated as this one was, I do not know, but I lean rather to the latter view. My experience with this case, however, will lead me to endeavor, in future, to begin the enucleation high up, at the top and less vascular part of the cyst wall.

It was long ago pointed out by Bantock that, in broad ligament or parovarian cysts, the peritoneal covering could be readily separated from the cyst proper. This served to distinguish it from the cyst of the ovary, the outer wall of which cannot be separated from the covering beneath it. While this was an intraligamentary cyst, it was not that form of cyst which is described by Doran as originating in the hilum of the ovary and containing papillary growths, several specimens of which I have exhibited to this Society.

DR. B. C. HIRST showed an

INTRALIGAMENTOUS CYST.

This specimen was recently removed by an operation performed by Dr. T. H. Bradford, at which I had the pleasure of assisting. The tumor sprang from the right broad ligament and was attached deep down in the pelvis. Its blood-vessels were enormous. It was covered by that curious muscular-looking capsule which makes these tumors resemble an enlarged uterus. There was furious hæmorrhage at the lower attachment when an attempt was made to ligate the pedicle. This was easily controlled by a long pair of catch forceps passed in the dark. The entire tumor was removed and the stump cauterized. The operation lasted three hours and the woman almost died on

the table. She recovered from the immediate effects of the operation, but died three days later. The mass consists of a papillary growth internally and a capsule which shows features referred to by Dr. Goodell in a meeting of the Society last December, and that is the seeming rottenness of the tumor wall in spots, which makes it exceedingly difficult to remove these growths without tearing them and allowing some of their contents to escape into the peritoneal cavity. This happened in the present case. Had the woman lived it is probable that the peritoneal surface would have been infected by this papillomatous matter.

DR. R. P. HARRIS gave the case of the late Dr. Emeline Cleveland, who had become infected from an ovariectomy and had a syphilitic sore develop on her wrist, which ultimately was the cause of her death.

DR. JOSEPH PRICE said the case reported by Dr. Goodell illustrated beautifully the primary and the secondary value of the tube; the signal of hæmorrhage and the cure of the abscess which formed later. The woman would have perished from the hæmorrhage or the abscess had the tube not been used. In regard to the virulence of living pus, he might say that he had twice been poisoned in abdominal work. Virchow had called attention, long since, to the virulence of living pus. He differed entirely from Dr. Baer as regarded the nature of the cyst which he had presented. It was clearly a parovarian cyst. It belonged to that class of tumors to which we applied the minor methods of treatment without knowing exactly what the tumor was. In this case you may strip off the capsule and still have a cyst. This could have been done more readily if the specimen were a recent one. The other day, he removed an enormous parovarian cyst, and in a few minutes was able to convert it into two cysts. Such tumors are always parovarian and the enucleation is easy.

DR. BAER had already separated the two coats of the cyst. He would confess frankly that, after reading Doran and other authors on this subject, he did not yet exactly understand the difference between these tumors.

DR. SLOCUM asked Dr. Goodell what, in his opinion, was the origin of the two cysts in his case.

DR. GEO. SHOEMAKER thought that, in using the bichloride solution to wash out incised and punctured wounds, it did not penetrate deeply. He should hesitate to place dependence on it unless the wound were large enough for free irrigation and the solution was strong. A solution made of alcohol and bichloride was the best, as the solution would penetrate to all depths. Free bleeding should be encouraged and the wound should be enlarged.

DR. H. A. KELLY thought that Dr. Baer had developed an interesting point in not using any

ligature. He had himself operated in four or five cases in which no tying was required. One of his cases was a pus sac and a small ovarian cyst. After enucleating the mass nothing but oozing points were left. He attributed this to the fact, as he had before called attention, that, after adhesions had formed, the original blood source had withered away, and the mass was supplied by blood from the surrounding parts. In the case of another cyst closely resembling this, he had to use a greater number of ligatures than he had ever before used. Every point seemed to bleed and required repeated ligature. This case he drained, and she recovered after he had opened a pus sac from the vagina. He now seldom used a drainage-tube—never when he could avoid it. He did not fear clean blood and clean fluid, if not in too great quantity. He had had no trouble for a time in his hospital, since he had adopted this method.

DR. J. M. BALDY called attention to a point mentioned by Dr. Baer. He (Baer) stated that the Fallopian tube was attached near the umbilicus, at the point of a scar produced by one of the tapping punctures. This is another illustration of the dangers which all now realize. The tube had been perforated by the aspirator and had become attached to the abdominal wall near the umbilicus. It had here discharged pus for a long time. The fistula which had been left could not be accounted for until the operation. The result of this accident might easily have been most disastrous.

DR. WM. GOODELL remarked that, in reply to the gentleman who asked what those other cysts were, he must confess that he could not explain them satisfactorily. Their presence was something new to him. Whether or not they were due to the syphilitic element he was unable to say. He knew that one was wholly independent of the other two cysts; he was not so sure of the second. He was disposed to attribute the abscess to one of these cysts taking on inflammatory action subsequently.

With reference to the distinction between parovarian and broad ligament cysts, he must confess that he had labored under the same difficulty that Dr. Baer had. The term broad ligament cyst was a generic one, for there are differences in broad ligament cysts. In a parovarian cyst the two layers can be readily stripped from one another. In an ovarian cyst, on the other hand, every escaping Graafian follicle has caused a scar which rivets the two tissues together, so that in such a cyst the two layers cannot be separated. Of broad ligament cysts we have two typical varieties: one the true intraligamentary cyst, usually containing papillary growths, and attributed by Doran to the hilum of the ovary; the other, of which he thought Dr. Baer's specimen was an illustration, is a cyst starting from the horizontal or vertical tubes of the parovarium. These are very beautiful trans-

lucent cysts, over which the fimbriae of the Fallopian tube run and spread like the fronds of seaweed. They also contain a limpid fluid. A third broad ligament cyst is the hydatid of Morgagni. There are other cysts to which Doran has referred, but he did not understand fully his description, and he thought that Doran himself does not clearly understand them, from his description. Others describe other broad ligament cysts. They claim that cysts will form here as elsewhere. For instance, we have retention cysts in the labia from enlargement of the glands of Duverney, and we have other cysts not connected with this gland. These are attributed by some to serous accumulations in the interspaces of areolar tissue. In order to simplify matters, he divides these cysts into two sets, the true parovarian cysts and the true intraligamentary cysts, liable to contain papilloma. These intraligamentary cysts try him more than any other kind. The deep and tedious enucleation and the sprouting vessels beyond reach make anxious work. The adhesions also obscure the landmarks, and are very perplexing. About five weeks ago he tackled one of these cysts, and in endeavoring to enucleate it, he tore a hole in the bladder, into which three fingers could be introduced. The same accident happened to him several years ago, before he had ever heard of an intraligamentary cyst. Both cases fortunately recovered. He sewed up the wound in the bladder, in this last case, with a continuous catgut suture. He then took the portion of broad ligament which had been stripped up and united that over the bladder, so that he had two sets of sutures, like the Czerny-Lembert suture in wounds of the intestine. He introduced a self-retaining catheter, and there was no further trouble, except that the eyes of the instrument at first became clogged by the blood in the bladder. In the former case a good deal of blood accumulated in the bladder. This he was able to dislodge by injecting a solution of pepsin, which seemed to digest and break up the clots.

DR. B. C. HIRST reported

SIX CASES OF PUERPERAL INSANITY.

In the last eighteen months he had seen six cases of puerperal insanity, an unusual experience for an obstetrician, since, according to Fordyce Barker, this condition only occurs once in 400 cases of labor. Of these six, four were illegitimately pregnant; two had mania, while four presented melancholia, apathetic appearance, and seemed indifferent to all about them. Three of the women recovered their reason, two are apparently hopelessly insane, and one died from a septicæmia which was associated with, and perhaps caused the mental state. One case was sudden in its onset, violent in its manifestations, but short in its duration. The woman was told, two weeks after confinement, that her perineum was ruptured

and must probably be sewed together; she almost immediately became maniacal and remained so for about three weeks. A correct idea of the most common variety of this affection, of the prognosis and best means of treatment, cannot be obtained from an obstetrical practice, which must necessarily be small, but must be sought for in records of such cases presented by competent observers who, especially if in charge of asylums, have to deal with a large number of them. Studies of more than 800 of these cases by Clark, Macleod and Wigglesworth, have recently been published. From them it appears that the maniacal form of the disease is the most common; that a large majority of the cases recover, usually within six months; that where death occurs it is commonly traceable to sepsis, which is so often associated with puerperal insanity, although a few cases die from maniacal exhaustion; that the best treatment is the Weir Mitchell rest cure. Heredity plays a most important part in the etiology of this disease; very often the subject is mentally and physically depressed. It seems not very uncommon for the chorea of pregnancy to develop into insanity; this happened in one of my cases.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Disinfecting Power of Tobacco Smoke—Sir Morell Mackenzie—Increase of Cancerous Disease—Injurious Methods of Teaching—Cambridge Medical School—Hepatic Surgery—Saccharin—Dr. Gamalicia—Trial of a Medical Man for false Insurance Certificate.

Mr. V. Tarsinari has been making some experiments with regard to the alleged or rather the "superstition" of the disinfectant powers of tobacco smoke. Smoke from a cigar or cigarette was drawn over a piece of linen, which had been dipped into fluid containing microbes. When the cigar was finished the linen was at once placed in a tube containing a liquid in which such germs could breed and multiply. The experiment was repeated with a number of different microorganisms, including those of cholera, anthrax and pneumonia, and of course check experiments were also made in which smoking was omitted. In every case the effect of the smoke was greatly to delay the growth of the organisms, and in a few cases it was entirely prevented. Mr. Tarsinari proposes at an early date to follow up his investigations in the hope of isolating that part of the smoke to which its germicidal property is due, and so to possibly add a new disinfectant to the long list of those we have.

Sir Morell Mackenzie delivered an address on

"Speech and Music" to the members of the Edinburgh Philosophical Institute in the Music Hall, Edinburgh. The president, in introducing the lecturer, said the institution was a magnet that attracted to Edinburgh all that was best in the intellectual life of the Nation. Sir Morell Mackenzie, in his preliminary remarks said, he accepted their invitation with some hesitation, for when he received it he was at Charlottenburg in a position of unexampled difficulty and responsibility. He could not say that he was particularly sensitive to criticism, but it was gratifying to him to find, that whatever others might say, in dear old Scotland his countrymen stood by him. At the close of the lecture a vote of thanks was cordially adopted to Sir Morell.

At the Royal College of Surgeons, Sir Spencer Wells stated that cancerous diseases were increasing in this country. The increase was continuous in the seven years after the last decennial period, both in males and females, but considerably greater in males. Deaths from cancer had gradually, from 1861, increased from 360 per 1,000,000 to 606 in England alone, and in Ireland the increase had been from 350 in 1877 to 430 in 1887. Sir Spencer urged the necessity for early operation, and the danger of inadequate, unnecessary or desperate operations, and compared the results obtained by so-called remedies of a secret character with the work of the surgeon.

Sir Douglas Galton in his address at the meeting of the Sanitary Institute and the Parkes Museum of Hygiene, recently amalgamated, said the present methods of teaching introduced by the Code relating to elementary schools, are injurious mentally, bodily and morally. In speaking of over-pressure, he said: In the very young a lesson of a minute may be all sufficient. Later of three minutes, five, ten, fifteen and so on to one hour, two or three. But to this there was a limit, and physiologists said, although the receptivity varies in different children according to difference of temperament, physical health and build, the receptivity at one time in all children ceases at the end of three hours. Sir Douglas Galton thought the education of a mental kind now being supplied will be imperfect, and may be dangerous, unless it be so combined with physical culture that a perfect or comparatively perfect health of body shall go with it.

As showing the growth of the Medical School at Cambridge University, in 1865 the number of M.D. and M.B. degrees conferred was 6, in 1875 it was 12, in 1887 it was 57. The University has furthered this increase by the foundation of new professorships in physiology, pathology and surgery, and of lectureships in other branches of professional study. Clinical lectures at Addenbrook's Hospital, first introduced by Dr. Paget in 1841, furnish the necessary element of practice. At the present time the largest number of under-

graduates on record are pursuing medical study at the University.

At the Medical Society of London, Mr. I. Knowsley Thornton gave some notes of his most recent operations in hepatic surgery. The first two were cases of abscess in connection with perforation of the gall-bladder, presumably by gall-stones, though the stones were not found. The third case was one of cholecystotomy, the gall-bladder being removed and the stones left in the common duct, from which afterwards they were expelled, there being considerable disturbance as they passed through the ileo-cæcal valve. The fourth case was one of ordinary cholecystotomy, the gall-bladder being sutured into the parietal opening and drained. The fifth was one of hepatotomy for hydatids of the left lobe of the liver. The last case was one of abscess in connection with perforation of the gall-bladder, stones being found both in the abscess sac and in the gall-bladder and cystic duct, 100 in all. Mr. Thornton drew attention to the danger of waiting when there were symptoms of impacted gall-stones on the advisability of free incision, and drainage in preference to aspiration on hydatids on cholecystectomy in place of cholecystotomy, on the function of the gall-bladder, and upon the irritant action of bile on healing wounds. With regard to the two first cases he brought forward where the stones escaped from the gall-bladder and became encysted, the first tube took about seven or eight weeks to heal up, and were at present quite well.

In a report on saccharin, although its medicinal value in certain special cases is admitted by Dr. Beaumetz; he protests energetically against its use in articles of food, as it retards the action of the gastric juice upon albumenoid substances, as well as the saccharific use of starch by the ferment of the saliva phyaline. Some experiments prove that in some persons the prolonged ingestion of saccharin in small doses is followed by pains in the stomach and disturbed digestion. These symptoms ceased when the saccharin was discontinued and reappeared on its resumption. In Paris the Academy of Medicine has formally concluded that saccharin may not be regarded as a food, but merely as a medicament.

Dr. Gamaleia, the Russian Physician who declares that he has a method of inoculating for cholera, is in earnest. He has proposed to the French Academy that he should experiment with it upon himself, and after long hesitation his proposal has been accepted.

Prince Charles Theodore, second son of the late Duke of Bavaria, is a medical enthusiast. When a boy, his favorite amusements were chemistry and botany, and subsequently he studied medicine and surgery. The eye was his favorite specialty, and to the treatment of this organ, he to this day, diligently applies himself, seeing both

rich and poor patients, and acting in every way as a practitioner, even to taking fees.

A medical man, of Belfast, was tried at the Wicklow Assizes for defrauding an assurance company by certifying as a first-class life for insurance a man he examined, who died two months after of cardiac disease and dropsy. The prosecution contended that the existence of the disease was known at the time of the examination, and that he withheld this knowledge and certified falsely. The jury convicted and the prisoner was sentenced to six months' imprisonment.

DOMESTIC CORRESPONDENCE.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Lobar Pneumonia: an Analysis of Fifty-six Fatal Cases — Classification of Pneumonia — Complications, Diagnosis and Treatment of Pneumonia.

Dr. Satterthwaite, the well-known pathologist, has recently presented to the Academy of Medicine a new study of lobar pneumonia, which was principally based on an analysis of fifty-six fatal cases observed by him. The paper was one of those which do not by any means show for what they are worth, as the expression is, but which in reality involve an immense amount of hard and conscientious work; and it will no doubt constitute a real addition to the literature of a subject which must necessarily always be of the greatest practical interest to the profession.

The classification which Dr. Satterthwaite makes of the principal types of pneumonia are as follows: 1. Acute lobar pneumonia; 2. secondary lobar pneumonia; 3. embolic lobular pneumonia; 4. bronchial lobular pneumonia; 5. the interstitial pneumonia of heart disease. Acute lobar pneumonia, he said, occupied a unique position in the catalogue of diseases; for both anatomically and clinically it was unlike any known affection. He objected to the designation of croupous pneumonia—as applied to it by some from the fact that fibrin is of very regular occurrence in the exudation which fills the vesicles—on the ground that croupous and catarrhal processes may be combined in any example of pneumonia, whether lobar or lobular, and may also be associated with certain chronic processes, such as phthisis or syphilis. This disease was first clearly differentiated in 1841 by Grisolli, a pupil of Lanis, and he thought that no work had surpassed his in the completeness of its clinical and anatomical details. It was the most common variety of pneu-

monia, and Dr. Satterthwaite's statistics sustained those of Fagge, which show that it is chiefly a disease of the male sex. When it originated in one lung the right was usually selected, and when both lungs were attacked the second lung was rarely involved until the affection in the first had gained some headway.

Having described the stages of engorgement, red hepatization, and gray hepatization, he went on to speak of the symptoms and the clinical signs. Fine crepitation, he said, while one of the most important early signs, was not a positively essential one; and occasionally it lasted the entire length of the disease. In referring to individual symptoms he said that in his cases pain in the side usually preceded the chill. In old people cough might be absent, and in two of his cases there was no expectoration whatever. In fifteen the sputum was either bloody, blackish, rusty, or greenish. Often groups of instances had been observed in which it was uniformly colorless throughout the disease.

Albuminuria was quite common, though not so frequently as in the interstitial pneumonia of heart disease; and he was convinced that if the urine received the attention which it deserved a nephritic implication would be found more often than now appeared from the statements of writers on this topic. His statistics, he said, showed a less amount of nephritic trouble than actually existed since his cases were all in hospital patients, who were often brought into the wards in a moribund condition, and it was manifestly impossible to secure the complete evidence on this point that was needed for statistical purposes. Yet they showed a percentage of 41, and in 5 per cent. of this total there was chronic kidney disease of long standing. In 8 per cent. only did it positively appear that there was no renal implication, as shown by clinical and post-mortem evidence; and there was distinct evidence of acute kidney disease in 36 per cent. of the cases. So far as the kidneys were concerned, however, we had more to fear from the evacuation of an old nephritis, when the damaged organ was suddenly called upon to do vicarious work for which it had little capacity.

As to the diagnostic value of fine crepitation, Dr. Satterthwaite believed that it was now generally admitted in the best quarters that this sign is heard not only in the usual types of pneumonia, but also in pulmonary phthisis and syphilis; or even in bronchitis, as Andral claimed. The pain in pneumonia, which most frequently referred to the nipple, and next to this to the base of the lung, he considered as due to pleurisy. The highest respiration met with in his cases was 64, and there was uniformly a high ratio between the respiration and pulse. Thus, while the pulse was never more than double the normal, the respiration was often three times the normal; and

in an average of seven cases was about twice the normal. The highest temperature in his cases was 108° , and at death the lowest, 100.2° . In ten the highest average temperature was 104.3° . The crisis usually occurred between the third and eighth days, or, more accurately, between the fifth and seventh days. His statistics showed that the fatal issue, if it came, might occur on any day of the disease (always within two weeks); but that the danger was greatest about the end of the first week, or, in reality, on the sixth day. This fatal day corresponded with the date at which the crisis occurred, according to most clinicians.

The immediate cause of death was usually heart failure, the heart muscle becoming exhausted from the prolonged and exhaustive work it had to perform, or, indirectly, through the influence of poisoned blood upon the nervous centres. In rare instances the respiratory nerves would yield, and respiration would stop, though the heart proceeded. Some late writers, like Ziemssen, thought exposure to cold a very infrequent cause of pneumonia; but if we noted the time of the year at which the affection was prevalent, we at once realized that it was a disease of the late autumn, winter and spring months. In 26 of Dr. Satterthwaite's cases 27 fell between October 1 and January 1, and only 7 in the remaining four months.

He thought there were at least two varieties of acute lobar pneumonia; the first being a sort of epidemic form, which might be called pathogenic, sometimes associated with diarrhoea or dysentery, where persons had been crowded together and compelled to inhale foul air. The second was due directly to cold; and there were probably other causes also. In speaking of the alleged bacterial origin of the disease he said it appeared that none of the observers who claimed to have demonstrated this had complied with Koch's law as to the determination of whether or not a given microbe was the cause of a disease, viz.: *first*, its successful culture apart from the body; *second*, its successful inoculation on the body, with the subsequent production of a pathological condition the counterpart of the disease in a given organ. Thus, he said, it would be necessary to show that a pure culture inoculated upon the blood remote from the lungs produced lobar pneumonia. Experiments, however, had almost always failed in this respect, and it had been found necessary to inoculate the lung tissue, where any foreign substance would, if injected, produce pneumonia. But in such experiments it was lobular, and not lobar, pneumonia that commonly resulted.

Pleurisy was a complication that was to be expected. The pleurae were always involved when the inflammation reached the surface of the lungs; so that pleurisy was never absent, except in such rare cases as where the disease was central. A comparatively frequent complication was pericar-

ditis, which developed either by an extension of the diseased process or by a simultaneous implication. As to the mortality of pneumonia, he said it was profitless to give statistics on a general disease like pneumonia unless we knew, 1, the variety; 2, the decade of the patient's life; and 3, the general character of the attack. Lobar pneumonia had quite a different mortality rate from either variety of embolic pneumonia, the cardiac or the pyæmic. The rate was also probably different in childhood, in adult life, and in old age. Having given the statistics of various writers as regards mortality, he said that after a brief study of these, or any other statistics, it would be seen that their variation was to some extent a natural one; and though it was ostensibly true that the expectant plan was the most successful on the whole, still the results were by no means uniform in the hands of the same person.

Admitting, however, that these statistics were of value, Dr. Satterthwaite believed that we had evidence that the so-called expectant plan of treatment was the best. He thought that we had passed the period where it could be successfully shown that we could arrest the disease. We did, indeed, sometimes meet with cases of pulmonary congestion, in association with cardiac or renal disease or malaria, which presented some of the signs of lobar pneumonia; but the prompt relief by stimulants or antiperiodics taught us the nature of the congestion. The cause of death also indicated the obvious direction in which our main efforts were to be made. It was not so much towards reducing the temperature as towards maintaining the heart; next to obviating renal complications. Hence our clinical supplemented by our pathological data *did* point out the line of treatment. Dr. Satterthwaite doubted whether the high temperature in pneumonia was in itself a disease that we must attack and overthrow, and said that he had been led to believe by post-mortem studies that the use of antipyretics not only weakened the heart's action, but had some unfavorable action on the kidneys. It seemed to him that, since the introduction of the newer antipyretics, the renal implications had been greater than before.

Every case of acute lobar pneumonia, he thought, should be treated by itself, and the indications should be met as they arose. Hence the medical agencies that had from time to time met with favor had an appropriate field for their employment. He had often seen benefit from copious and repeated cupping in sthenic cases. In less vigorous persons he had seen relief follow cold water applications. In cases of defective action mercurials in large doses might give relief. In patients with weak hearts he had seen the case carried safely through with alcoholic stimulants; while in renal complications he had seen marked relief to the pulmonary symptoms caused by rem-

edies chiefly addressed to the kidneys. Reduction of temperature was indeed a relief to the patient, but it seemed to him that it was safer to accomplish this through the simpler remedies which caused diaphoresis, rather than by those which acted more promptly, but whose secondary effects were, to say the least, of doubtful value. Though high temperature was an alarming symptom, it was rather because it was an index of violent systemic disease than because of the body heat itself.

The concluding portion of the paper was devoted to secondary lobar pneumonia, a subdivision of the disease which Dr. Satterthwaite considered there was a positive advantage in retaining. In the nineteen post-mortem cases from which he had drawn his conclusions there was seen to be a line of phenomena which plainly indicated certain differences between the primary, or acute, and the secondary forms. In secondary pneumonia the ordinary clinical signs were either masked by the concurrent disease, or were so ill-defined that the pulmonary attack might pass unnoticed; and so it happened that sometimes, even in our best hospitals, this affection was first detected at the autopsy. The attention of the physician might not be directed to the pulmonary complication because the patient himself had not had his own attention directed to it. Such things happened with old people; or it might be that a physical examination of the chest was impracticable. He had observed the following antecedent conditions in secondary pneumonia: Nephritis, alcoholism, phthisis, burns, rheumatism, fracture of the ribs, hypertrophy of the heart, pleurisy with effusion, and pericardial effusion. He had found it in contemporaneous connection with the following affections: Abdominal dropsy, pericardial effusion, gangrene of the extremities, bronchitis, syphilis, endocarditis, hydrothorax, and aneurism of the aorta. Neither phthisical or syphilitic processes had any apparent connection with the pneumonia and, in fact, all cases in which there was any suspicion of phthisis or syphilis as possible causes of the lobar pneumonia were thrown out of the computation. Secondary pneumonia seemed to be most common in winter, and no one of Dr. Satterthwaite's nineteen cases occurred between May 1 and October 1.

The disease was usually insidious, and the chill was frequently absent; probably not occurring in one-fourth of the cases. While the pain in the side might be absent and the difficulty in breathing not marked, the crepitant râle could be heard, as a rule. The temperature would rise rapidly, as in acute pneumonia, but it would average somewhat lower; though the temperature might not indicate the severity of the attack. The pulse also averaged lower than in acute pneumonia. Bronchial breathing and dulness might be the most decided symptoms, and they were the ones most commonly present in Dr. Satterthwaite's

experience; being noted in about 70 per cent. of the cases. The expectoration was apt to be scanty, and oftentimes afforded little help in the diagnosis. He had noted it in only about one-third of his cases; where it was either bloody, rusty or black. Renal symptoms were apt to be more prominent than in acute pneumonia. As indicating the difference in the type of this variety of pneumonia, there was found a decided tendency to suppuration.

The duration of secondary pneumonia was about the same as acute pneumonia, but the crisis was apt to come earlier, because the patient was already exhausted by the antecedent trouble. Hence, he found that out of 14 cases, 8 died within forty-eight hours, and that the period of the greatest danger was between the second and third day. The immediate causes of death were attributable mainly to the same three conditions which are prominent in acute lobar pneumonia, viz.: 1. heart-failure (in about one-half of the cases); 2. uræmia, and last and least, respiratory failure from the toxic influence of the unhealthy blood on the nerve centres. These facts, he thought, sufficiently indicated the proper line of treatment.

P. B. P.

"Deeper Brain Surgery."

Dear Sir:—With reference to your interesting comments on Dr. Keen's article in the *Medical News* advocating exploratory puncture and tapping of the cerebral ventricles, will you allow me to say this: The operation was, I believe, first suggested by Wernicke, and latterly again by Dr. Zenner, of Cincinnati.

Last spring I had a patient upon whom I made a diagnosis of cerebellar tumor. The intense pain, rapid development of optic neuritis and other symptoms led me to think it probable that there was pressure on the venæ galeni and excess of fluid in the ventricles. The idea of tapping them occurred to me, but in talking over the subject with Dr. Weir he was inclined to discourage it, considering deep punctures of the brain far from safe. The patient died. A tumor was found involving nearly the whole of the left cerebellar hemisphere and part of the middle lobe. *The ventricles were normal.*

Since then I have seen death produced in a case of cerebral surgery by deep exploratory punctures.

Yours very truly,

C. L. DANA, M.D.

50 W. 46th St., New York.

Must Dentists who have the Degree of M. D. be Graduates of Dental Colleges?

F. M. H. writes: I am a graduate of two medical colleges, but am, and have been practicing for ten years, the specialty dentistry. I

am going to move to Kansas and the Board of Dental Examiners say I can't practice unless I am a graduate of a *dental college*—I think the "greater includes the lesser," and will test my rights in court. I think a graduate of medicine has a perfect right to practice anything which is recognized as a specialty of medicine by the International Medical Congress. I want to know if you will give me an affidavit that the International Medical Congress recognized dentistry as a specialty of medicine and that many leading dentists met with us at the last session and took part in the discussions pertaining to their specialty, also, that you recognize it as such.

NATIONAL HEALTH SERVICE.

Marine Hospital Service.

The Secretary of the Treasury in his Annual report to Congress says concerning the Marine-Hospital Service: The Supervising Surgeon-General of the Marine-Hospital Service reports that during the year just passed there have been treated 43,203 patients, which is the greatest number of patients furnished relief in any year since the organization of the Service.

The receipts from all sources were \$496,441.69, and the expenditures were \$528,844.66, which amount was paid from the unexpended balance to the credit of this appropriation in the Treasury.

Better facilities for laboratory work and more room for storage purposes have recently been secured by the removal of the Bureau from 1419-1421 G street, N. W., to 1306-1308 F street, N. W., the Department having leased the latter-named premises. The lease began July 1, 1888, but, owing to the necessity of making repairs and alterations in the building, the store-room 1314 F street was occupied temporarily as a store-room and laboratory. The new location of the Bureau is a marked improvement over the old, but the necessity still remains for a building specially designed for the uses of the several divisions.

The Surgeon-General also recommends that a special laboratory for bacteriological work be established at this Capital.

A full statement of the sanitary work of the Bureau is made in his report. The passage of the law providing for the maritime quarantine stations is a great advance on previous legislation, and will greatly improve the sanitary defenses of the country. A circular has recently been issued by the Bureau concerning the treatment of foul ships which it is believed will, in the course of time, make a clean ocean-going fleet, as the extraordinary disinfection required in case of the second appearance of a vessel at one of our ports in a foul and unsanitary condition is, in effect, a

penalty upon her. The history of the calamitous epidemic of yellow fever in Florida is included in his report, and it gives me pleasure to state that the officers of the Marine-Hospital Service have performed the delicate duties intrusted to them with courage, skill, and enthusiasm. The depopulation of Jacksonville was mainly effected by means of the establishment of a refuge camp, the Surgeon-General proceeding to Florida for that purpose. It is believed that the new legislature of Florida will pass a law creating a State board of health, which will obviate many of the difficulties contended with during the management of this epidemic, as it has been difficult to cooperate with so many boards of health, each having different regulations, scattered as they were throughout the State. For the prevention of the spread of the disease from one State to another, fumigation and inspection stations were established by regulations of August 28, which have required little modification to the present time. It is my opinion that inter-state commerce should be so regulated as to strip railroads and other common-carriers of their power to convey disease from one State to another, and that the regulations to be framed in accordance with such law should be enforced by National authority. I transmitted a draft of a bill to the chairman of the Senate Committee on Epidemic Diseases, which was introduced (Senate 3467), but as yet no action has been had upon it. The passage of the bill seems to me a public necessity.

The Surgeon-General recommends the establishment of hospital buildings at New York and Philadelphia and that an additional medical officer be detailed for his office.

BOOK REVIEWS.

RECUEIL DES TRAVAUX DU COMITÉ CONSULTATIF D'HYGIÈNE PUBLIQUE DE FRANCE ET DES ACTES OFFICIELS DE L'ADMINISTRATION SANITAIRE. (Tome 17. Année 1887). Paris: Imprimerie Nationale, 1888.

This volume is not less interesting than its predecessors, and it shows great labor on the part of the Committee, and incomparable skill on the part of many of the reporters on special subjects. The report is transmitted to the Minister of Commerce and Industry by the distinguished M. Brouardel who is also Dean of the Faculty of Medicine of Paris.

The work of the Comité d'Hygiène was for the year reported concentrated on two groups of questions.

1. The modes of propagation of epidemic diseases.
2. The suppression of adulterations of food.

The work on the first group of questions include an account of the Sanitary Service, Rules for the Suez Canal, Rules for the troops in the extreme Orient, sanitary measures to prevent the importation of yellow fever, and disinfection on board of ships.

Among the many interesting things in this volume we notice that in a letter of Inspector-General Proust to the Minister, dated June 16, 1887, he asks that the French agents in foreign countries where yellow fever is prevalent shall make monthly reports, and in case epidemic shall telegraph the information. In support of his request, he says :

"The Government of the United States is already of this opinion, it imposes on all its consuls and consular agents the duty of furnishing by each mail a sanitary bulletin. The bulletins are very circumstantial : In case of epidemic they are sent to the Minister of War at Washington office of the 'general health,' where a *résumé* is imprinted and sent to sanitary agents on the sea-coast of the United States and this each week (we require but a monthly bulletin)."

The notion of consuls reporting to the Secretary of War, instead of to the Secretary of State is a little out of line, and as well the title given the Supervising Surgeon-General, but it is good evidence of the far-reaching influence of the United States. It is pleasant to know that the request of Dr. Proust was granted and that their consuls were directed to report "allegee samee" as those of the United States.

Under the heading of "Médecine et Hygiène Publique," there is published in full the decree of June 4, 1887, by President Grévy, recognizing the Institute Pasteur as "an establishment of public utility."

The objects of the Institute are thus set forth :

1. The treatment of hydrophobia after the method of Pasteur.

2. The study of virulent and contagious diseases.

The means which the Pasteur Institute proposes to employ are,

1. The creation of establishments comprising chambers for inoculation, laboratories and their adjuncts.

2. Scientific missions from France to foreign countries, for the study of virulent and contagious diseases.

3. The publication annually of the results obtained in the establishments dependent on the Institute, in particular those concerning the treatment of hydrophobia.

4. Eventually the institution of prizes destined to encourage, outside of the Institute, all those experiments in the same direction as those having their inspiration inside the Institute.

M. Pasteur was made First Director during his life.

Among the accounts of epidemics we notice an interesting one on the sweating sickness which prevailed in several departments in June and July, 1887.

The report is worthy a place in the library of any physician, and to the practical sanitarian it is invaluable.

THE MEDICAL BULLETIN VISITING LIST OR PHYSICIAN'S CALL RECORD. Philadelphia: F. A. Davis. 1889.

This is a novel list and an unusually convenient one. It is so arranged that a month's work (both records of visits to be and that have been made) can be kept on one line. There are additional pages for obstetrical and bill records, etc. In front there is a small amount of text, of very useful information. The book is well made.

VISITING LISTS.

The Medical News Visiting List, the Medical Record Visiting List, Lindsay and Blakiston's Visiting List, Leonard's Physician's Day-Book, and the New York Medical Journal Visiting List, for 1889, have been received.

MISCELLANEOUS.

DR. J. F. HARTIGAN, writing to the Surgeon-General on the epidemic at Enterprise, Florida, says :

"Had the town been in good sanitary condition, it is clear that the disease, after its introduction, could not have made such rapid headway. But a tour of inspection through it revealed a criminal violation of ordinary hygienic rules. Over its territory are scattered numerous ponds and marshes, generally without an outlet or an attempt at one. Perhaps the most pernicious of these is just west of the hotel. In it is dug a pit about fourteen feet by ten, lined with boards, which has been a receptacle for the hotel sewerage. The intention was to regularly mix this with dried muck and use as a fertilizer, but it had not been properly carried out, and the matter for a long time kept leaking through, as was evident from the surrounding exhalations.

I found the streets and vacant lots generally overgrown with weeds and decaying vegetation ; here and there were scattered heaps of all kinds of garbage ; the drains were obstructed, and there was no system of disinfection or removal of excreta. Perhaps the worst death-trap that was ever found in a Christian community existed here. In the court-house yard the jail was situated ; almost adjoining the latter a privy-house was built over a cesspool 10 feet square and 4 feet deep, with a 6-inch pipe communicating. Not only was this intended for the excrement from the jail, but it was an open place where the passerby entered. On account of the porosity of the soil, the fluids percolated, and there was hardly ever an overflow. Two and a half years ago this pest-hole was established by authority ! having been permitted to exist since. Of course it was a subject for early attention. After making a bonfire of the building, and free disinfection, with a dunny-engine I removed in closed barrels to the suburbs more than 1000 gallons of filth, and filled the opening with dry sand. The evil consequences of the condition described were noticeable as far back as June, and in September, when the county-seat and jail were removed

to DeLand. A prisoner named Riley, who was confined only two months, was a strong, robust man when committed, and on transferring him he was but a shadow of his former self. Another man, after five months' incarceration, was turned loose, and has since been a physical wreck. The pale, wan features and languor of the jailer's family attested plainly the havoc made among them. The reason given for the nuisance not being abated was because it was in the court-house grounds, and was county property. The town authorities and health board frequently protested against it, but the commissioners postponed action from time to time. It is but one illustration of the feebleness of county boards of health in Florida. They are mixed boards, and are all appointed by the Governor, generally on the longest list of recommendations."—*Weekly Abstract of Sanitary Reports*, Dec. 21, 1888.

THE SENSATION OF LIGHT.—New-born infants possess but feeble perception of light. Exposing a baby to the action of twilight five minutes after birth, Preyer observed the eyes to open and shut so that the palpebral fissure at times measured 5 millimetres, and a little later the eyes were noticed to be wide open and the forehead wrinkled. Before the end of the first day it was evident from the play of the features that a difference in the intensity of light was appreciated by the babe. On the second day the eyes rapidly closed on bringing a candle flame near, and on the ninth day the head was energetically turned away from the flame, and the eyes tightly closed. The sensitiveness to light was greater in the waking state than immediately after sleep, so that the same object which at one time caused dislike at another excited pleasure. On the eleventh day, the infant showed signs of pleasure at the sight of a burning candle, and also from a bright curtain holder. On the tenth day, it was found that the throwing of a strong light on the eyes of the sleeping infant caused contraction of the orbicularis palpebrarum. The pupils of new-born infants soon react to light, but are apt to vary much in size; they may contract to the diameter of 2 millimetres soon after birth. At the age of 2 months bright objects excite signs indicative of mirth.—*Lancet*, September 1, 1888.

THE KANKAKEE ASYLUM.—The report of the trustees of the Eastern Hospital for the Insane, at Kankakee, for the month ended June 30, 1888, has been published. During this period 607 patients were admitted and 2,131, from ninety different counties, were under treatment at the home; 162 were discharged as recovered, and 54 were much improved. There were 1,690 inmates when the report was prepared, and the average number of inmates during the period was 1,543, and during this time 149 died. Seventy-four per cent. of the inmates for the last four years have been there for periods greater than two years. From 65 to 100 inmates have been employed in industries helpful to the institution, and all the sewing, with the exception of men's clothes, has been done by inmates. The shoes of the inmates are kept in repair by two patients, and the needs of the hospital in brooms and coking chairs are met by patients. All the rugs, mats and canes used at the hospital are also made there. The cost of running the institution has been greater than it would have been if the establishment had been made large enough at first. It was originally built to accommodate 1,000 patients, and was afterward increased to accommodate 1,600.

FROM WASHINGTON. The annual meeting of the trustees of the Washington Training School for Nurses was held Wednesday morning, Dec. 19, 1888, at the Nurses' Directory, 1226 O street, Dr. H. D. Fry, the President, presiding, Dr. George N. Acker, Secretary. The resignation of Mrs. Miranda Tullock was received, in accepting which the trustees passed a resolution thanking Mrs. Tullock for her active and useful service in behalf of the school, extending over the past eleven years, she having

been one of its incorporators. The following Board of Trustees was then elected: Drs. H. D. Fry, George N. Acker, H. L. E. Johnson, Col. M. M. Parker, James E. Fitch, Thomas Wilson, Mesdames J. W. Powell, A. J. Bentley, D. W. Prentiss, E. F. Andrews, M. V. Milburn, and Miss Lizzie Joseph.

The Washington City Dental Society has elected the following officers: President, Dr. R. H. Gunnell; Vice-President, Dr. George B. Welch; Recording Secretary, Dr. H. B. Noble; Reporting Secretary, Dr. H. M. Schooley; Essayist, Dr. E. R. Rust.

YELLOW FEVER BACILLI.—DR. JAMES E. REEVES, of Chattanooga, has been studying the tissue of the liver and kidneys from patients who died with yellow fever at Decatur, Ala., and has discovered a microorganism that closely resembles a specific germ. Dr. Reeves has sent mountings of these tissues to various bacteriologists in this country, and has had the bacilli photographed by Professor Delmoro, of the Ohio State University. A consultation of scientists will be held at Johns Hopkins University the first week in January, at which the microorganism will be examined and discussed.

DR. I. T. RUSSELL died at Winchendon, Mass., on Dec. 19, aged 70 years. He entered the army as a surgeon, and at the close of the war was honorably discharged with the rank of brevet-lieutenant-colonel. He was a member of the Masonic order and of the Loyal Legion, Vice-President of the New York Medico-Legal Society, and a Past Vice-President of the Massachusetts Medical Society.

LUMINOUS BACTERIA.—According to the *Naturforscher*, Professor Pfleger and Dr. Tilanus have succeeded in cultivating, by Koch's method, the bacteria which produce the luminosity of sea fish. They have also been able to place them on a glass slide, which, in the dark, appeared thickly strewn with luminous points. Prof. Van Haren Noman has succeeded in photographing them.

DR. AGNEW'S RETIREMENT.—The medical students of the University of Pennsylvania will present to Doctor D. Hayes Agnew an oil portrait of himself on his retirement from the professorship which he has held for several years in the institution.

THE PHILADELPHIA POLYCLINIC has just established a three months special course in ophthalmology, which will include systematic didactic instruction and quizzing, with three hours daily of actual clinical work.

The professorship of obstetric theory in the Paris Faculty has been replaced by a professorship of clinical obstetrics.

THE NEW JERSEY STATE SANITARY ASSOCIATION met at Trenton on Dec. 8 and 9. A number of interesting papers on sanitary subjects were read.

DR. GEORGE F. SHRADY, editor of *The Medical Record*, was married on Dec. 8th to Mrs. H. E. Shultis.

LETTERS RECEIVED.

Letters have been received from Dr. J. Berrien Lindsey, Nashville, Tenn.; Dr. G. B. Thornton, Memphis, Tenn.; Dr. Samuel N. Nelson, Boston, Mass.; Dr. J. H. Etheridge, Chicago; Oscar Oldberg, Ph.D., Chicago; Frank Billings, D.V.S., New York; Dr. Francis H. Brown, Boston, Mass.; Dr. Ephraim Cutter, New York; Mr. Wm. J. Dornan, Philadelphia; Dr. H. H. Smith, Philadelphia; Mr. R. D. Jackson, New York City; Dr. F. M. Harrell, Nauvoo, Ill.; Dr. Henry O. Marey, Boston, Mass.

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ORIGINAL ARTICLES.

TUBERCULOSIS CUTIS VERRUCOSA.

Read in the Section on Dermatology, at the Thirty-Ninth Annual Meeting of the American Medical Association, May, 1888.

BY GEO. T. ELLIOT, M.D.,
OF NEW YORK CITY.

The discovery of the tubercle bacillus by Koch and the incontestable proof furnished by experimental inoculation that it was the cause of pulmonary tuberculosis, has acted as a powerful incentive to the study of disease from a bacteriological standpoint of view, and, leading to the study anew of many affections hitherto considered as of unknown origin or doubtful nature, has allowed many of them to be established upon a firm basis. One of the most important results of this method of study has been the discovery that affections, previously considered separate and distinct one from the other, were in reality only clinical manifestations of the same disease; that is, they were due to the same cause—a fact which was most brilliantly seen in tuberculosis as it occurs in the skin. In this organ of the body, the most varying clinical phenomena have been found to be dependent upon the presence of a bacillus, morphologically and in its effects identical with that one found in tuberculosis of the pulmonary or abdominal viscera, or of the bones, etc., and the constancy of its presence has not only identified these cutaneous processes with tuberculosis in general, but has also served to demonstrate the bond which unites them one to the other.

The forms in which tubercular disease of the skin manifests itself are clinically so different, that we may be allowed to review them briefly. Among them should be mentioned those ulcerations which occur in the latter months of general tuberculosis, and which are situated most usually in the neighborhood of the orifices clothed with mucous membrane. The rarest of the forms of tuberculosis cutis, they originate primarily as a red, dry and hard papule, which undergoes caseous or purulent degeneration, softens and, breaking down or being scratched, becomes an ulcer. It may also develop secondarily through inoculation of a small cut or scratch, or slight wound. In either case, the ulcer, once formed, runs a very

slow chronic course and never heals spontaneously.

Lupus in all its forms has also come to be accepted as clinical manifestations of tuberculosis cutis, since Demme¹ first demonstrated the presence of the tubercle bacillus in connection with it. Notwithstanding that, in its symptoms, it is so entirely different from the first mentioned form of this disease of the skin, and also from those to follow, still it corresponds with them pathologically. Besides, there can also be brought forward, in support of the tubercular nature of lupus, the repeated production of tuberculosis by experimental inoculation of a culture of the bacillus obtained from the affected tissues; the large percentage of deaths from tuberculosis of other organs occurring among those afflicted with lupus (Block,² 79 per cent.; Sachs,³ 62.83 per cent.; Bender,⁴ 62.3 per cent.); the frequent development of acute miliary tuberculosis after operative procedures made upon lupus, etc.

The large majority of those cases and of those cutaneous processes situated especially about the neck, which the older dermatologists called scrofula, scrofulous abscesses, serpiginous scrofulides, have also to be ascribed to the same cause as lupus. This form of tuberculosis occurs most usually in children and youths secondarily to tuberculosis of the lymphatic glands or of the bones or joints. When primary, it develops in the subcutaneous connective tissue and represents the so-called cold abscess or the gomme tuberculeux, formerly the gomme scrophuleux, of the French. All of these forms have been often enough demonstrated to be of tubercular nature by many successful inoculations, etc.

Separated from these in the manner in which they are acquired, but still belonging to the same disease and due to the same cause, are those clinical manifestations which can be traced more or less directly to infection from without, and which may be regarded as true "inoculation tuberculosis." In this category many of the so-called anatomical tubercles or verrucæ necrogenicæ are to be placed.⁵⁻⁷ They occur most commonly upon the

¹ Demme. Berlin Klin. Wochenschr., 1883.

² Black. Viertelst. f. Dermat. u. Syph., 1886.

³ Sachs. Ibid.

⁴ Bender. Deutsch. Med. Wochenschr., 1886.

⁵ Riehl. Centrbl. f. Chirurgie, 1888.

⁶ Karg. Ibid. ⁷ Finger. Deutsch. Med. Wochenschr., 1888.

hands and fingers of those who have to do with autopsies, anatomical material, etc., appearing as a small red papule, which quickly becomes pustular and then covered with a crust. In the course of a few weeks, if the crust be removed, the lesion is found to have become warty, and between the papillary prolongations small drops of pus may ooze out on pressure. Their growth is slow and they undergo involution in their central portions while enlarging peripherally. The lesions may disappear spontaneously or they may be followed by general tuberculosis.

Closely allied to the just described lesion and differing from it only in minor points is that form of inoculation tuberculosis first described by Riehl and Paltauf, and to which they gave the name of tuberculosis cutis verrucosa. It is the one which interests us more especially in this paper, since the case to which I would call attention can most properly be regarded as corresponding to those described by them.

According to Riehl and Paltauf, tuberculosis cutis verrucosa occurs usually in healthy adults, who by occupation are continually in contact with domestic animals and animal products—as butchers, cooks, etc. It is observed most frequently on the dorsum of one or both hands, or of the fingers, or in the interdigital spaces, but seldom on the palmar surfaces or on the wrists. The lesion resembles somewhat a group of irritated warts or a lupus verrucosus, and varies in size from a pea to a silver dollar. They are round or oval, but may coalesce together and then have a serpiginous appearance. Each plaque is surrounded by a narrow erythematous zone, on which there may be small superficial pustules or crusts. The central portions are elevated and warty, and pressure causes the appearance of drops of pus, which well up from between the papillary outgrowths. Involution of the plaques takes place spontaneously, but it may be months or even years before it begins.

Microscopically it was found, that the appendages of the skin were unimplicated in the process, but that the morbid changes, which were those belonging to tuberculosis in general, were situated in the papillae and in the upper portion of the cutis. Tubercle bacilli were quite abundant. The pus was found to proceed from subepidermal military abscesses, which did not contain any tubercle bacilli, but staphylococci.

The following case, which has been under my care, seems to me to agree so accurately with the description of tuberculosis cutis verrucosa, that I would record it as an example of that form of disease, due to the inoculation of the tubercle bacillus, notwithstanding that the source from which that bacillus was derived was not the same as was observed in the cases reported by Riehl and Paltauf.

M. F., a female, aged 70, a native of Ireland, presented herself at my clinic at the Demilt Dispensary on March 20, 1888. She is a widow, in good general health and looks younger than she really is. She has never had any disease of the skin before. Her husband died some years ago from phthisis and since his death three of her children have succumbed to the same disease. A fourth child, a young man, had an attack of pneumonia two years ago, which was followed by phthisis, for which he has been under treatment at the Dispensary. When examined, it was found that there was infiltration of the apex of right lung and formation of cavity. During his illness, and also subsequently, his mother had nursed him and washed his linen and the utensils used by him. She states that she first noticed one year ago the inception of the affection on her hands. It began as a small papule on the knuckle of the little finger, and one developed also on the first phalanx of the index finger of the left hand. The papule was round, somewhat elevated, elastic, pale-red in color and slightly squamous. These lesions grew larger and became warty in appearance, new plaques appeared on the dorsum of the hand and enlarging, coalesced together forming a large diffuse patch. The disease began about six months ago on the right hand. The papules appeared first on the knuckle of the little finger and shortly after on the wrist. Its extension took place in the same manner as it had on the left hand.

On examination, it was found that the primary lesion on the knuckle of the little finger was as large as a twenty-five cent piece and that involution had begun in the centre. There was still a slightly warty appearance there, but it had sunk in to a considerable extent. The more peripheral portions were, however, more prominent, warty, and typical. There was a marked increase in the horny epidermis covering the majority of the lesion, which was pale red in color and bounded by a narrow red halo. Pus, however, did not well up on pressure. Along the ulnar border of the hand, a number of separate discrete lesions the size of a pea were found. They were unquestionably of recent origin and they showed to a marked degree the warty and other characteristics given by Riehl and Paltauf, with the exception that there was an absence of pus. The plaques on the dorsum of the hand, which had become confluent, occupied a considerable space. They now formed a diffuse patch, which beginning about a half inch above the knuckles, extended to the upper border of the carpus, while laterally it reached the ulnar border of the hand, on one side, and on the other was bounded by the metacarpal bone of the index finger. This large plaque was more or less surrounded by a narrow red halo, and its surface was papillomatous and even decidedly fungoid in places. Ulceration was nowhere to be

seen, but lateral pressure caused pus to well up from the base in many points. There were also numerous small crusts, but any great excess of horny epidermis was not noticed.

On the right hand there was found, on the first phalanx of the index finger, a large oval lesion, but the one on the knuckle of the little finger had disappeared, leaving a superficial cicatrix. A large diffuse plaque occupied the dorsum of the hand from about midway upwards to the wrist, around the ulnar side of which a number of small discrete lesions curved, forming a more or less serpiginous line. On the wrist a glistening white superficial cicatrix was seen, the site of the primary plaque, which had undergone complete involution. The general features of the lesions and plaques on the right hand were the same as were observed on the left. Here and there in the large diffuse patches on the backs of both hands there were found portions undergoing, or which had undergone involution. On these the papillomatous or warty character had disappeared to be replaced by cicatricial tissue. Nowhere on the red halo surrounding the patches were there any small pustules.

The patient stated that the lesions were at times inflamed and were then quite painful, but for the most part subjective sensations were absent, except a slight itching occasionally. It was, unfortunately, impossible to obtain one of the small primary lesions for microscopical examination, the woman objecting to any one of them being excised, therefore I was obliged to be contented with a small piece from the edge of the large patch on the left hand. This was hardened in absolute alcohol, mounted in celloidin and cut with the microtome. A portion of the sections were stained with borax-carmin, the remainder for tubercle bacilli. In the carmin sections granulation tissue, small tubercles, epitheloid cells, giant-cells, etc., such as characterize tuberculosis, were found. The general features did not correspond exactly to those detailed by Riehl and Paltauf, differing in the much greater prominence of the papillomatous growth, in the lesser amount of horny accumulation covering it, and in the diffuse infiltration of the tissue with small round cells. These differences can, however, be explained by the facts that the sections examined were not obtained from a young lesion, but from a patch which had been present for a long time, had been subjected to all kinds of treatment since its first appearance, and had been repeatedly inflamed. Consequently the want of exact correspondence did not invalidate the diagnosis of tuberculosis, one which was further proved by the examination of the sections stained for bacilli. In these tubercle bacilli were found, not, however, very abundantly, only one or two in each section. They were found lying high up in the papillæ and also in the upper portion of the cutis proper, but none in the rete. The

presence of these bacilli thus established the nature of this patient's disease without question, although the diagnosis of tuberculosis cutis was not an impossible one when proper weight to the clinical history and symptoms was given and other cutaneous affections which might have resembled it were excluded. It would seem as though the source from which the disease was acquired was also clear. She attended to her son who had phthisis, washing the linen and utensils which had been used by him, and a perfectly just supposition is, that she was inoculated by tuberculous sputa, or matter containing tubercle bacilli. In women of her class there is not found that attention to the hands, either in regard to cleansing or avoidance of small cuts or scratches which might be desired, and the probability is that some of these latter furnished the point of ingress to the microorganisms.

The primary lesions, that is, the small discrete ones along the ulnar border of the left hand and elsewhere, agreed clinically in every way with the description given by Riehl and Paltauf, with the exception that there was absence of the miliary abscesses mentioned by them. They are not, however, of great consequence, being only the result of secondary infection, and at any rate they were present in the older plaques. The very marked papillomatous character of these latter situated on the dorsum of both hands, cannot be said to belong to the process directly, but its development should be ascribed to the repeated inflammatory attacks to which these patches were subjected.

At the beginning of this paper it will have been noticed that the statement was made, that the so-called anatomical tubercle was very closely allied to the tuberculosis cutis verrucosa of Riehl and Paltauf. There do not, in fact, seem to be any material reasons why a distinction should be made between them. They certainly agree in their causation, while in the life history, the symptoms characterizing the lesions and the anatomical changes found in each, there is a virtual agreement. The only difference between them seems to be in the source of the material causing them, but that is such a minor point that it would, unquestionably be better, and it would simplify nomenclature, if they were both included under the same name as representatives of inoculation tuberculosis of the skin; which, in fact, has lately been done by Finger.

The diagnosis of this inoculation tuberculosis may at times be difficult. Still if full value be given to the general history of the patient, the course of the individual lesions, and aid be obtained also from the microscope and from differential diagnosis, the obscurity which might surround a case may be easily cleared up.

Owing to its verrucous character, the disease certainly resembles several other cutaneous affec-

tions, among which may be mentioned lupus papillaris, which very frequently is found on the extremities and hands. This form of tubercular disease—that is, lupus—begins most frequently early in life and its primary lesions are small brownish tubercles deposited in the skin. After these small nodules have undergone degeneration, broken down, and an ulcer has formed, then from this as a base the papillary proliferation shoots up and the verrucous form of lupus is established. As has been mentioned, no ulceration ever occurs in the inoculation tuberculosis under consideration, the primary lesion arising from normal unbroken skin. Relapses likewise never take place in the cicatrices, as is the case in lupus.

The ordinary inflammatory papillomata are likewise easy of recognition from their localization, their acute course, the absence of cicatricial involution occurring spontaneously, and by the history and symptoms of the disease which preceded their development. The so-called framboesia syphilitica differs also from the tuberculosis verrucosa cutis in that it always develops from an ulcer, which has the peculiar indurated base of specific lesions. It is surrounded by a sharply defined zone of infiltration, and either in the vicinity are some characteristic ulcerations, or here and there on the body there may be found evidences of previous or existing syphilis.

On the backs of the hands, the papillary form of epithelioma is not infrequently met with. It originates, however, from a preexisting wart or from an ulcer; its base is indurated and it undergoes ulcerative metamorphosis, all of which are absent in the form of tuberculosis under consideration.

It is scarcely necessary to continue further the question of differential diagnosis, since in any doubtful case recourse should be had to the microscope, which will readily solve the question; but a few words in regard to treatment are advisable.

All that there is to be said of this is comprised under the term mechanical. The small plaques should be excised in toto, while the larger ones may be scraped out with Volkman's sharp spoon or destroyed by means of a Paquelin cautery. Thorough and complete destruction of the disease is the important point, and the choice of remedies should always be made with a view to that end.

No. 45 E. 30th Street.

SCARLET FEVER prevails to such an extent in Holland, Mich., that the Board of Health has ordered the Sunday-schools to be discontinued.—*Chicago Evening Journal*

THE membership of the Association must be increased for the general welfare.

A CASE OF ATROPHY OF THE SUPERCILIA AND CILIA, ASSOCIATED WITH ATROPHY OF ALL THE FINGER-NAILS, OF CONGENITAL ORIGIN.

Read in the Section on Ophthalmology, at the Thirty-ninth Annual Meeting of the American Medical Association, May 9, 1883.

BY R. TILLEY, M.D.,

OF CHICAGO, ILL.

G. H., æt. 17, father and mother living, several other children. Patient came complaining of difficulty in using her eyes. There was a large amount of photophobia, considerable blepharitis and some conjunctivitis, the two eyes being about equally affected. There was no entropion, but the upper lids were considerably swollen and there were practically no cilia on the lower lids, about three or four, stunted in growth on each under lid. On the upper lids the cilia were more abundant, but still there were few in number and stunted in growth. The supercilia presented, however, the most striking features. They were so short and stubby on both sides, especially towards the temporal region, that I could not be persuaded that she had not burned them either intentionally or accidentally. Whilst I was examining her, the Sister Superior of the institution came in the room and at once observing the supercilia exclaimed, "What made you burn your eyebrows?" To which the girl protested smiling, that she had not done so; that they had always been in that condition.

The hair of the scalp was abundant and black. On examining the finger nails I found a marked condition or what might be called dystrophy of all the nails of both hands. There was not one exception. She assured me that her father's nails are exactly the same as hers, on both hands, and that his eyebrows are similar to hers. I have not had an opportunity of seeing her father to verify her statement in this regard; on further inquiry she told me that she had two brothers similarly affected. I visited her home and found a little brother about two years old. All his nails were as nearly like the nails of my patient as it was possible for the nails of a child of two years to be like one of seventeen years. The cilia and supercilia were also exactly similar to those of his sister. On the lower lid there were three or four cilia, and those stunted in growth, and the supercilia had the same burnt-off appearance, only the phenomenon was not so striking as the little one had light hair and light supercilia, whilst my patient had dark hair and dark supercilia.

I have examined the cilia and supercilia under the microscope and have brought a slide with me so that those who wish to examine them may have the opportunity. There is a marked deficiency in the epithelium of the hair both in the shaft and the root. Both show a marked dystrophic condition. It would seem as though the

burnt-off appearance was occasioned by the breaking of the shaft. One of the supercilia on the slide shows a place where it was ready to break before it was taken out. The pigment present is abundant. The great majority of the individual hairs was not more than an eighth of an inch long—root and all.

The nails, as I have said, on every finger of both hands, exhibited a phenomenon which I have tried to demonstrate to you by a cast. It was taken from the thumb. All the other fingers correspond to the thumb so closely that I did not think it necessary to take another cast. It would simply have been a repetition as nearly as a finger can resemble a thumb.

The nails are not discolored in any way; they have not lost their luster, but they are so thin that they give practically no support to the tip of the finger, and each nail on its anterior half, presents one, two or three little depressions, according to the size of the nail. There is not among the whole fingers a single nail that exhibits any projection at the free border. The nails on the toes are similar, only they are more distorted and are little shapeless masses of distorted epithelia. The little brother's toe nails were not quite as much deformed as those of my patients. He was running around without shoes or stockings on.

The mother sustained the testimony of my patient that her father's nails, eyelashes and eyebrows were exactly similar in appearance to those of my patient, and considering that I have seen the same manifestations according to her statement in the little brother, I think, without unwisdom, we may accept the other cases of father and older brother on testimony. We have then for consideration a father and three children all exhibiting marked similar peculiarities in the nails, cilia and supercilia.

What shall I say relative to the etiology of this peculiarity? Kaposi and other writers on dermatology say that when the nails are disfigured by atrophy or dystrophy the hair frequently exhibits similar conditions. I find no special mention made of the cilia and supercilia.

Evidently in their estimation syphilis is responsible for a large share of the deformity which occurs in the nails, and to me the peculiarity of the fingers in question are more satisfactorily explained by a supposition of a syphilitic inheritance. But if that is the case in the nails has the same cause been at work in the distortion of the cilia and supercilia? I carefully sought, but was unable to find, any enlarged glands; there were no characteristic teeth, no deformity of the bones, nor any indefinite cachexia. The only suspicious circumstance that showed itself the last time I saw the patient was an abscess on the arm which, supposing there had been a history of syphilis either congenital or acquired, might well have passed for one of its products. But of course acquired syphilis is ruled out.

I will merely add, the acute affection for which the patient was brought to me rapidly subsided, but that I did not attempt any medication or treatment to restore the cilia or supercilia.

A CONTRIBUTION TO THE STUDY OF TUMORS.

Being part of the Discussion on Tumors at the recent meeting of the New York State Medical Association.

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What constitutes malignancy histologically and clinically?

From earliest times tumors were grouped into two classes, the benign and malignant. Long before exact methods of observation permitted closer discrimination, the physician recognized these two groups. From the patient's standpoint, the most important question is whether the tumor is or is not innocent in character. To the surgeon, too, this division of neoplasmata, based as it were upon prognostic considerations is all important. It establishes the time for and the character of any operative interference. It continues the patient under observation for a period of years, or leads to his dismissal after operation. And, therefore, it is proper, though perhaps very unscientific, to view tumors in this light.

What is understood by the malignancy of a neoplasm? If we are to consider it synonymous with danger to life, tumors in themselves innocent, would by location become malignant. This is obviously not what is meant. It refers to a growth which invades, not merely displaces tissues in its immediate neighborhood, which excites in them such radical changes that their former identity is lost; a growth of infectious character, which disseminates its infection through vascular and lymphatic channels, heaping up its infectious elements in the glands and organs of the body. The malignancy of a tumor excludes its being serious simply because of its local disturbances, but ranks it as one capable of producing not only local destruction of tissue but of extending its destructive tendencies to various organs and thus imperilling life. Not all malignant tumors possess this power to an equal extent, nor do all tumors, histologically identical, exhibit the same degree of malignity. Moreover, in others the border line between benignity and malignity cannot be well drawn. The manner of growth of malignant neoplasmata is extremely suggestive of their germ origin. In these days of bacteriological investigation, it is not remarkable that much attention has been devoted to the search for some microbe, the presence of which might definitely establish the malignant character of a tumor.

In November of last year, at a special meeting of the Society for Internal Medicine of Berlin, Dr. Scheuerlen, clinical assistant of Professor Leyden, presented a paper upon the "Etiology of Cancer." It was based upon a study of ten cases of carcinoma of the mamma, five of the uterus, five of the cervix, three cases of metastatic cancer of the liver, and one of the stomach. He asserted that cultures made from spores found in each of these tumors, lead to the development, each time of the same bacillus.

Franke reports in *Muenchener Medizinische Wochenschrift*, No. 4 of the current year, that he has discovered in sarcoma, bacilli and spores which are constant. The bacilli are thinner and longer, the spores somewhat thicker and larger than those of the carcinoma. Schill, of Dresden, who since 1882 has searched for a micro-organism to which he could attribute the origin of cancer, claims that he constantly found in cancer juice and sections of carcinomatous tissue rod formations, but never really bacilli. Petit (*L'Union Medicate*, No. 152, of last year) claims for Rappin the glory of having been the first to discover the Scheuerlen bacillus, with which he has awakened, by inoculation, a cancerous disease in a rabbit, finding here, again, the same microbe.

And yet good observers who have studied the validity of these claims, among them Senger in particular, insists that Scheuerlen has mistaken for the spore of cancer what is nothing more than that of a potato bacillus. Senger maintains that if it is really the bacillus of cancer, it ought to be evident in cancerous tissues as a bacillus. But here only spores have been found, while the bacillary growth is most luxuriant where the potato is used as soil. Moreover, in upwards of 350 inoculations, the results have been negative. So while the theory of infection through the agency of a microbe might very beautifully explain the progress of malignant tumors, we can merely say that we have reached a new stage in this study, but are not as yet able to demonstrate microscopically any pathognomonic germ.

And yet the microscope has been the means of unfolding to us an explanation of these malignant attributes. In most instances it is possible to determine histologically, the character of a tumor. Luecke, excluding cysts, recognizes in solid tumors, the only real neoplasms. For the present discussion, this broad division will answer our purpose. But it must not be forgotten that many apparently innocent blood cysts are really hemorrhagic sarcomata, their walls presenting the characteristic microscopic appearances. Speaking generally, it may be said that those solid tumors which exhibit microscopically, maturely organized tissue formation, are innocent, while those whose counterpart cannot be found in the mature body, but which present a rich but immatured cell structure, are malignant

growths. Sarcoma and carcinoma exhibit no typical matured tissue in their construction. Sarcoma is a connective tissue tumor, with its component cells in their embryonic state. For many years one form of cancer bore the name of epithelioma, as it was apparently of epithelial lineage.

In 1871 Waldeyer, in an able résumé of his own as well as the labors of other German co-workers, published in Volkmann's *Sammlung* an address, which took the advanced stand that all forms of cancerous disease were of epithelial origin. In studying the development of these two forms of malignant disease, it becomes apparent that they do not imitate in their growth the typical connective and epithelial tissues, but that sarcoma becomes the atypical unrestricted connective tissue tumor, and carcinoma the atypical unrestricted epithelial tumor. More than this the kind of epithelium present at the site from which the tumor grows, indicates the kind of carcinoma we are to encounter. Squamous, spheroidal and cylindrical epithelia develop in turn, not only primary carcinomata of their distinctive types but maintain their individuality, even in secondary formations. The same independence for round and spindle cells is claimed by Ackerman, in his very learned discourse upon the histogenesis of sarcoma. These two kinds of malignant tumors maintain their respective types throughout the whole life period of their growth. There is no conversion of cells of one tissue to those of another, no growth of primary cancer from connective tissue. This statement is not to be understood as opposing, but rather of explaining the conversion of mature epithelial or connective tissue tumors into the malignant ones of their kind. The bloodvessels form the center of growth of the sarcoma. About them the spindle cells are seen to form and indeed are seen to grow out of their adventitia. The bloodvessels increase in number and size and soon countless nucleated spindle cells, sometimes large and again small, are seen isolated or gathered into bundles. If the formation has been rapid, no time for fibrillation occurs, and we have a tumor which may attain great size, rich in vessels and of soft consistence. Here the vessels may be seen converted into or built up of spindle shaped sarcoma cells, and the blood current may course through a series of sarcomatous canals. With slower growth we recognize macroscopically a distinct fibrillar arrangement, and the tumor microscopically is seen to possess a firmer structure. The particular arrangement of this new connective tissue will vary with the location of the growth, not only because of the peculiarities imparted to it by location, but also of the rapidity of growth its situation may excite. As the tumor grows by addition to its surface, the parts nearest its circumference, present the most recent tissue formations.

We have another variety of connective tissue

tumor, the very counterpart of new granulation tissue, the round celled sarcoma. Here we find in addition to the connective tissue stroma just mentioned, a large number of round cells, some corresponding to leucocytes in appearance and action, others, like mucous corpuscles or certain glandular cells. They are densely crowded between the meshes of the stroma. We encounter round cells of varying size called small and large and which Ackermann, because of their capability of taking on different stains, believes to be different kinds of connective tissue cells.

The stroma of sarcoma may assume most atypical and polymorphous shapes. It may not only be spindle shaped and fibrillar, but may be stellate, pyramidal and extremely irregular, or may at times resemble strongly the spacing met in carcinoma, when it is termed alveolar sarcoma. It is thought by Ziegler that the conversion of a network of vessels into a sarcomatous tissue leads to this alveolar formation. Scattered amongst the spindle and polymorphous stroma we sometimes find large multinuclear cells, known as giant cells. They are particularly encountered like their counterpart in the embryo, in bony structures.

Embryonic connective tissue is rich in mucin. This is particularly true of that which is ultimately to be converted into adipose tissue. We find the counterpart of this formation in the tumor called myxoma. Its usual seat is as we would anticipate, in parts where fat abounds normally. The close resemblance to, and frequent association of this tumor with the sarcoma renders it not altogether improbable that with time they may be grouped together. Stellate and fusiform cells are found as in sarcoma, and the difference between the two tumors is rather more chemical and physiological than histological.

It is not my intention to enter into a consideration of all the various forms of sarcoma due to location. They possess no important peculiarities save those imparted them because of their origin from specific matured connective tissues. Mention, however, should be made of the pigmented variety known as melano-sarcoma, with whose very malignant tendencies we are all acquainted. In its cells as well as its intercellular substance we find abnormally developed the normal pigment of the part. It is the cell element of the growth which indicates the character of the sarcoma, and it may be said that sarcoma asserts its greatest malignity when its cells approach most nearly the type of the youngest embryological connective tissue. And so the small round celled sarcoma is most greatly dreaded, next those spindle celled forms, where there is no marked fibrillation, while those which approach the higher and more organized types of tissue, exhibit less malignant tendencies. This disposition to attain in certain parts of a tumor the type of mature

connective tissue is frequently manifested by its organization into bone, cartilage and so on. For this reason it is essential that all parts of a tumor and especially its youngest parts be subjected to histological study, in determining its malignancy. The outlines of some sarcomata can be well drawn; it is particularly the small spindle celled variety which appears to the naked eye to be encapsuled. Guided only by the microscopic appearances, the surgeon would be apt, because of this thorough definition to pronounce the growth innocent in character, but the microscope shows that the cells utterly disregard such lines of limitation and reach well into the surrounding structures.

Quite as certainly as sarcoma is the embryonic connective tissue tumor is carcinoma of epithelial origin. The time has come when we can regard cancer as being of local origin. Primary cancers occur only where in the mature body, some form of epithelium exists. To appreciate the character of a cancerous tumor is to study the manner of its growth. When epithelial cells multiply upon the surface of a given part, and become organized into tumor formation, the growth remains innocent in character. The moment these epithelial cells begin to invade the underlying tissues malignancy has begun. Pursuing their course with the microscope, they are seen to enter the connective tissue traveling along any microscopic channel, lymph canal or bloodvessel, and soon collect at various points in little groups called cancer bodies, building for themselves nests in the connective tissue called alveoli. Virchow considered this alveolar arrangement of the connective tissue the essential histological characteristic of cancer and presumed that cancer bodies which filled the alveoli were the outgrowth of connective tissue cells. His views had been generally accepted until Thiersch, Waldeyer, Luecke and others proved that they were but a result of epithelial cell invasion. Chains of epithelial cells can in some specimens be seen tunneling through connective tissue and effecting in it decidedly radical changes. The entrance of epithelial cells into connective tissue territory, awakens the infiltration of this tissue with numerous round cells, resembling leucocytes in appearance. These young connective tissue cells, also decidedly impress the infiltrated tissue and lead to further structural changes. The relation of vessels and cells to each other, is not as intimate as that seen in the sarcoma, for here they do not run between the cells but in the alveolar structure. Epithelia are of low vital power. In normal tissues they receive their nutrition not by direct vascular supply but by absorption; so here in epithelial tumors we find them thriving in the same way, and like low forms of animal life, multiply most rapidly.

The cells partake of the character of the epithelium of the affected part. Where the tumor is

of glandular origin, as in the breast, they are spheroidal; where normally pavement epithelium is found, as upon the skin and most mucous membranes, they are of the squamous variety; and where we would be apt to encounter columnar epithelium, they are cylindrical. They resemble the various forms of epithelium in shape and nucleation; they multiply in the same manner, but in their distribution and arrangement they disregard all laws of normal growth and go as they please. This atypical arrangement is an essential feature of malignity. The cells are absolutely unrestricted in their movements and infiltrate all kinds of tissue. The more numerous the cells and the less abundant the connective tissue, the more malignant is the growth.

The character of the stroma depends upon the tissue invaded. As it is present in large or small amount the tumor is hard or soft. The alveoli do not always appear as separate cavities, but in the best specimens Waldeyer compares them to the openings in and channels through a sponge; and as by compression the sponge can be freed of water, so also can the alveoli be emptied. The cells may be so numerous as to render the existence of alveoli not apparent; but the characteristic epithelial cell is never absent.

In considering tumors only from the standpoint of malignancy, the resemblance of sarcoma and carcinoma may not be a matter of moment. However, it will be in place to say that while in every form of cancer we have connective tissue invasion and change it is only the alveolar forms which particularly resemble each other. In carcinoma, however, the cancer cells and the alveoli are distinctly separate; in the sarcoma we see nests of cells sending out branches communicating with each other and with the alveolar walls, demonstrating by this connection their homogeneity.

Contrasted with benign tumors like adenoma, fibroma, myoma and other forms of organized cell growth, we recognize as the characteristic histological evidence of malignity the presence in great abundance of immature cellular elements, arranged in most atypical forms. Whether a microbe yet undiscovered awakens, through chemical or other agencies this cell activity, and disarranges the equilibrium of normal tissue growth is still unknown.

In the clinical study of a tumor, we are concerned first with its history. Sarcoma, occurring when connective tissue growth is most active, is recognized as the malignant tumor of childhood and early life. When the vitality of connective tissue is reduced, the resistance to the invasion of epithelial tumors is lessened. For this reason carcinomata are encountered later in life. Growing from fixed tissues, each form of primary malignant disease is found in certain structures and even in definite locations. Primary malignant disease of bone, is sure to be sarcoma-

tous; carcinoma of bone results either from direct invasion from diseased epithelial structure or from secondary infection. Therefore, should we find no external evidence of invasion, the search for a more remote source of infection must be continued. We encounter malignant tumors at points where two kinds of epithelia meet, at constricted parts of canals and in places particularly prone to irritation. All of these facts correspond with the theory of development, made evident by histological study. Everything speaks for the local origin of malignant tumors. Were they of constitutional origin we should expect them to crop out simultaneously from different parts of the body. On the contrary, tumors which are primarily multiple are innocent.

Heredity is no longer to be considered an important factor. Congenital tumors are not malignant. Sebaceous cysts and nasal polypi follow up certain families more frequently than does cancer. Osteomata appearing in various members of one family are more sure to be located alike, than are malignant tumors.

Among the earliest local manifestations of a malignant neoplasm are those due to the infection of the surrounding parts. The resulting infiltration is characterized by an agglutination of the tissues, the mucous surfaces, for example cannot be freely moved upon the submucous tissues. There occurs fixation of the growth and restricted mobility of it. A malignant tumor of the breast, because of the penetrating infiltration, becomes adherent to the underlying muscular structures. It is the relation the tumor bears to its surrounding tissues which particularly exhibits its malignancy, clinically. The innocent tumor simply occupies a place in the tissues; it may, as a result of an inflammatory process, become somewhat adherent to the parts around it; it may, by pressure, produce atrophy of the muscles or absorption of bone. It acts only as a foreign body and possesses no power of infiltrating the tissues, in the midst of which it is placed.

Malignancy is further evident in the infection of neighboring lymphatic glands. While this tendency is largely possessed by the carcinomata, it is also manifested by some sarcomata. In a case, reported last year by Fischer, of malignant sarcoma of the penis (*Zeitschrift für Chirurgie*, page 313), the inguinal glands on each side were converted into sarcomatous tissue. With sarcoma of the testes, frequently pelvic lymphatic glands show sarcomatous degeneration. Whether sarcoma cells, because of their size and shape manage to pass through the lymphatics unarrested, or whether the lymphatics are not always invaded by the sarcoma cells, is yet a mooted question. But as in its origin sarcoma is so closely related to the vascular system, its dissemination is, as we would naturally expect, through the blood current, and with it we have earlier, than in carcin-

oma, the indications of more remote infection. Yet it is not always that only neighboring glands are involved. Virchow was the first to tell us that with gastric cancer the lymphatic glands above the left clavicle were frequently affected, and Belin has shown that every form of visceral cancer can exhibit glandular disease at some remote point.

In both sarcoma and carcinoma we have sooner or later organic infection, the result of the deposition of malignant emboli, carried through the blood current. These find their way to the lungs, liver, bones and other parts, and thus we have aroused a series of secondary malignant growths, whose presence we establish clinically.

In form malignant tumors present nothing characteristic. They adapt themselves to the shape of the affected part, sarcoma seeming often to be only an hypertrophy. Ordinarily they exhibit a broad infiltrated base; yet pedunculated growths may be sarcomatous in character. The vessels of sarcoma occasionally dilate to such an extent that the tumor appears like an innocent cavernous growth. One of this kind, I removed three years ago from a lady's arm. Histological examination showed it to be a melanotic sarcoma. It has as yet not recurred. With carcinoma we frequently find upon the surface isolated nodules, early adhering to the skin. They break down and the ulcer resulting is surrounded with discolored infiltrated tissues.

In the examination of malignant tumors, Luecke calls attention to the fact that not all transparent tumors contain fluid. Sarcomata and myxomata are often quite diaphanous. This property is shared by some lipomata and lymphomata. To the touch malignant tumors exhibit a varying consistence. Some are extremely soft, others very firm. Many primary carcinomata exhibit an elastic hardness, while the soft sarcomata, myxomata and softened carcinomata present elastic softness. This elasticity is often mistaken for fluctuation. The exploring needle or hypodermic syringe soon clears up the deception. Pulsation is apparent sometimes in sarcomata of bone or even of soft tissues. As the latter are built up largely of a sponge-like structure and can be greatly reduced in size by compression, the pulsation may strongly suggest aneurism. But their location, origin and growth will usually render a diagnosis easy. When bone is the seat of a pulsating tumor, it may be considered malignant, as the medullary canal can not well be the site of a spontaneous aneurism.

Sarcomatous disease of long bones may so undermine their stability as to render them very fragile before tumor formation has sufficiently developed to attract the attention of the patient. In December of last year a young woman was brought to St. Joseph's Hospital in Syracuse. During the preceding August she had fallen out

of a hammock, and in the following September she made a slight misstep and sustained a simple fracture of the thigh. At the time of accident no existing disease of the femur was suspected. Union did not take place; the rapidly increasing swelling of the thigh was supposed to be inflammatory, and was treated by fomentations. Upon her admission to the hospital the diagnosis of sarcoma was made. The disease made rapid progress; the tumor extended to the body. Secondary growths occurred in the lungs and upon the skin, and in March she finally succumbed after a most painful illness.

Another feature of malignant tumors is their recurrence after operation. In itself this is not indicative of malignity, for incompletely removed fatty and fibrous tumors will also recur. And yet the recurrence of sarcoma in the stump of the amputation, the recurrence of carcinoma in the cicatrix or neighboring lymphatic glands are to say the least very suggestive. The period of time elapsing after removal indicates whether the recurrence is due to the continuous growth of unremoved portions, or whether we are really dealing with a new tumor; while the parts affected by the new growth establish whether or not there was co-existing disease of glands or internal organs.

Tumors innocent in character and springing from specific tissues may be converted into malignant growths of their type. Thus the papilloma may become the squamous celled carcinoma. During the past year, the whole civilized world, and particularly the medical profession, were exercised over the malignant laryngeal disease of the late German Emperor. Stoerk published in the *Wiener Medizinische Wochenschrift*, Dec. 3, 1887, a most interesting paper bearing upon the diagnosis of papilloma and carcinoma of the larynx. As it nicely illustrates some of the distinguishing features of malignant tumors. I will ask you to bear with me while I present the results of his study.

In the larynx every affection of the epithelial surface, active or sluggish, leads to excessive epithelial growth, but none to such an extent as the papilloma. Aside from slight disturbances of phonation and laryngeal irritation, patients endure these papillary growths for an unlimited period without much inconvenience. A great quantity of catarrhal discharge is excited and the tumor is maintained in a succulent condition. Isolated papillomata may slough and be cast off, others undergo retrogressive changes. While innocent in character they are freely movable, produce no interference with the action of the laryngeal muscles, and maintain a pale yellowish-white color.

The moment the discharge lessens and the papilloma ceases to be succulent, the floor upon which it rests changes; single masses become conglomerate, nodules appear upon the surface, the tumor

is less movable, it becomes of firmer consistence and takes on a darker hue. This dark discoloration is a positive indication of its change in character. Ultimately the tumor is found to be immovable, as though it were riveted to the substratum. With the cessation of epithelial growth upwards it attains greater breadth at its base. The epithelial cells are found to have penetrated connective tissue, muscular fibres, and the very walls of the blood-vessels are crowded with epithelial cells. This general infiltration produces great interference with laryngeal functions; cellular infiltration progresses, new nodules appear and the carcinoma spreads. Disseminated papillomata exhibit least the tendency to carcinomatous conversion.

The microscopic examination of papillary masses coughed up or removed will not reveal the true character of the growth, for it is the examination of the base which is all-important. Endolaryngeal operations performed for this or other purposes have often rendered these growths unsuitable for extirpation. The mildest operative procedures often awaken cell activity and confer upon quiescent growths most malignant attributes. Painful deglutition, disturbed phonation, respiratory distress, take the place of a mild train of symptoms. The loss of muscular integrity, the resulting laryngeal immobility, are pathognomonic of the conversion of innocent into malignant tissue.

For these reasons, Stoerk believes that the diagnosis must be made with the laryngoscope, and that here, at least, clinical appearances are more to be depended upon than histological investigation.

What is the mechanism of the necrotic process which so often occurs in certain neoplasms? Innocent tumors are not prone to necrotic changes except as a result of interference with their nutrition, or as overaction in them develops inflammatory disturbance. By pressure they may occasion death in the surrounding tissues or, resulting from their excessive growth, overlying tissues may become too tense and give way.

In malignant tumors, the outcome of atypical cell growth, there may occur cell metamorphoses and death. These tumors may additionally be subjected to accidents and diseases. Haemorrhage into a sarcoma may be so extreme as to completely alter its character. Moreover, inflammation may arise and result in structural death.

It is in the carcinomata especially that we encounter the necrotic processes. As epithelial tumors depend for their nutrition upon the vessels of the connective tissue, the relation of the epithelial formation to the underlying structures is of vital importance. When, as a result of epithelial disturbance, the underlying connective tissue becomes densely packed with small granulation cells, thickening and development of the epithelial body is prevented and, cut off from its

nutrient subsoil, cancerous ulceration occurs, which we call rodent ulcer.

When superficial structures become infiltrated with carcinomatous cells, and by tunneling through and into them, the nutrition of the part ultimately becomes affected, necrosis occurs. The resulting ulcer is not simply the result of tension and pressure, but actual cell infiltration, and its edges bear unmistakable evidence of it. The ulcer and tumor are so intimately associated, that the former simply fades into the latter. In the same way, epithelial cell invasion of the deeper parts cuts them off from their vascular supply. Central softening and degeneration results. The destructive process extending to the surface, leads to the formation of crater-shaped pockets. In the extension of carcinoma from skin to mucous membrane, the disease does not spread continuously, but the epithelial invasion reaches from the depth up towards the mucous surface and chokes the normal tissues into ulceration.

The protoplasm of the epithelial cells may undergo change. Fatty degeneration and caseation occur, particularly in the spheroidal, sometimes also in the squamous-celled carcinomata. This fatty metamorphosis may continue to such an extent as to fill some of the alveoli in carcinomatous breasts with a butyric substance. Small losses of tissue thus result. The connective tissue cells also undergo similar degeneration. Extensive suppuration and sloughing may follow, and in this way, too, deep pockets and great loss of tissue is occasioned.

A form of degeneration, once supposed to be a variety of carcinomatous growth and not decay, is colloid degeneration. It is seen particularly in the carcinomata arising from columnar epithelium in the intestinal tract and the cervix uteri. Other varieties occasionally exhibit it. Its character varies with the parts involved. Unquestionably, however, it is the result of alteration in the protoplasm of the cancer cells.

Closely allied to this is the mucoid degeneration of the connective tissue cells. We have present in all connective tissue, as Kuehne showed, a certain amount of mucin. It is the muciparous serum which separates the sarcomatous connective tissue cells from each other. We encounter mucous transformation in sarcoma of the breast, testes and other parts. It leads to necrotic changes and cyst formation in some cases.

Inflammation, rarely terminating in suppuration, occurs in sarcoma. It may lead to cell activity and an abscess may be suspected. But skin infiltration gives way to skin destruction, and a fungous mass appears. Butlin reports a case where a sarcoma in this manner sloughed out of a boy's thigh.

In the stroma of old cancers, especially of the breast, a form of metamorphosis occurs by which the growth is said to wither. The process is

rather one of organization, a real fibrillation of the connective tissue. By means of this cicatricial contraction the growth is greatly reduced in size.

It is evident that, as cell activity manifests itself in the growth of malignant tumors, so we see cell life intimately associated with their decay and death.

Are malignant neoplasms ever cured? If, in referring to malignant growths, we speak of effecting a cure, and mean thereby the internal administration of medicines which will aid a given part to resist the further invasion of the disease and to cast off the existing trouble, returning to its normal state, we surely must answer the question in the negative. No one speaks longer of malignant neoplasms being the local expression of a constitutional taint. The disease begins in the very primitive cells of a part, and in its advance simulates most closely other infectious diseases of local origin. The question is, therefore, to be put in this manner: Can we ever so thoroughly eradicate a malignant tumor that in the future there shall be no recurrence of it locally, nor any remote manifestations attributable to its infection? This we certainly can answer affirmatively.

To say whether, in a given case, a favorable prognosis can be offered, requires a consideration of its period of existence, its seat, its anatomical and clinical characteristics, its extent, the local and constitutional complications, as well as the operative measures to be pursued. As the discussion of these important questions will fall to able hands, it will only be necessary for me to briefly state a few established principles.

The greatest hope for the relief of malignant disease lies in its early thorough removal, while the disease is still very limited in extent, and before glandular infection is evident. As many cases have passed far beyond this stage before surgical attendance is solicited, the ultimate result is greatly imperiled. The primary location of a malignant tumor in an internal organ, where signs and symptoms of its existence are most obscure, or whenever its character cannot be well defined, as in the thyroid gland, early operation is out of the question.

A tumor which in a brief period of time has attained great size and exhibited unusually malignant tendencies, does not present as favorable an outlook for future exemption as does one whose growth has covered a long period, and where indications of local and general infection have long remained absent.

The occurrence of a primary growth in a part thoroughly accessible, and whose site forces its early recognition by the patient, leads to the most favorable results. Thus, in the lower lip 30 to 50 per cent. of the afflicted are cured. Appearing where with difficulty it can be entirely removed, its thorough eradication is all but im-

possible. Malignant tumors of the upper jaw present, therefore, but little to encourage an operation. When, furthermore, the removal of a malignant neoplasm demands an operation in itself dangerous, the probability of success is small.

In his recent work upon "The Operative Surgery of Malignant Disease," Butlin strongly denounces the very serious but so-called brilliant operations of recent times for the relief of malignant disease. He refers to statistics of extirpation of the larynx, removal of malignant tumors of the kidney, of the uterus through the abdominal wall, cancerous thyroids, and so on, 364 cases in all, of whom 238 died in consequence of the operation. "Battles, shipwrecks and railroad accidents," says he, "are mild and merciful compared with some of these achievements of modern surgery." But it is not my intention to enter upon a discussion of operative procedures.

Without extending my remarks further, it can be safely said that where, by an operation, a malignant neoplasm which has not awakened secondary infection can be thoroughly removed, we may hope for permanent relief. True, people may after years again become the victims of malignant disease, just as they may twice have pneumonia; but the two attacks need not be more closely related to each other. Great loss of tissue or sacrifice of limbs may be necessary, but the disease is wholly removed.

A REPORT OF TWO CASES OF SCALDING OF THE AIR PASSAGES BY THE ACCIDENTAL INHALATION OF STEAM, WITH REMARKS.

Read before the Medical Society of the District of Columbia, June 13, 1888.

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The following case fell under my observation in the Marine Hospital Ward of the Providence Hospital:

Captain Wharton, of the steam tug Clara Uhler, was brought to the hospital at 7:30 P.M., December 14, 1883. It appeared on inquiry of the Pilot who accompanied him, that about 6 o'clock in the morning, the tug was lying in her berth at Shamrock Wharf, lower Potomac, and the Captain was asleep in his cabin, the engineer attempting to get under way, a pipe blew out and threw with great force the steam and hot water through the bulkhead on to the Captain and scalded him about the body, face and limbs, and he inhaled much of the steam. As the tug was disabled, the patient was compelled to wait four hours on board before he could proceed up the river. He arrived at Alexandria at 5 P.M. where a physician was sent for. He gave him a

white powder, presumably morphia, and sent the patient hurriedly on to the hospital. On examining him, I found him in a state of collapse, his extremities were cold and pulseless, and his temperature was sub-normal. He was conscious but unable to speak, and his respiration was shallow and difficult. The *facies hippocratica* was well marked. I looked into his fauces and found the pharynx a white mass of scalded mucous membrane looking like a lining of cotton. Every effort was made to bring about reaction by the usual remedies, but the unfortunate man died in about two hours after admission to the hospital.

Case 2.—Inhalation of steam. Treatment by inhalation of dilute sulphuric ether; Recovery.—A male child, Geddis Crump, æt. 20 months, was playing in the kitchen of the house 22 D Street, N. W., on the evening of November 23, 1887, and while so playing applied the spout of a tea-kettle to its mouth and suddenly inhaled a full inspiration of the steam from the kettle. The child immediately began struggling for air and rapidly grew worse. Dr. G. H. Wagner was sent for, and on his arrival found the child in great distress, stridulous breathing and cyanotic hue, struggling violently for air. The inside of the mouth and pharynx looked as if it were lined with cotton. Fearing œdema of the glottis, Dr. Wagner sent for me in consultation, and on my arrival an examination convinced me that the entire track of the lining of the pharynx, larynx, and trachea seemed involved. There was, therefore, no indication for the performance of tracheotomy as operation at the usual site could not relieve the diminished calibre of the air passages below. I, therefore, recommended the inhalation of ether for the double purpose of relieving the pain and arresting the spasm, but as the ether must be continued for some hours a diluent was necessary, and I used listerine; it is probable that an alcoholic solution of oil of juniper and cajuput might have answered an equally useful purpose, but the listerine was handy and no substitute occurred to me. Dr. Wagner administered the mixture, (ether 1 part, listerine 3 parts) and the pain was arrested, and the breathing became tranquil. He continued to use it through the night whenever the breathing became difficult, and had the satisfaction of seeing the child much better the next morning, and the inhalation was continued at intervals until about 4 P.M. Wednesday. At 9 P.M. on that day, the stridulous breathing again began, and the inhalations were continued until about midnight, after which there was no recurrence of the difficulty. During this time the child was nourished by means of weak milk punch. Steady improvement began, and by the following Monday the child was entirely well.

A hurried glance at the literature of the subject shows that these cases are not numerous, although Mr. Gant¹ speaks of scalds of the larynx

as frequent "among the children of the poor, in their attempting to drink from the spout of a kettle containing boiling water. The act of swallowing is not complete, but the inside of the mouth and pharynx are scalded, and œdema of the glottis is speedily induced; the interior of the larynx remaining unaffected."

A somewhat similar statement is made by Mr. Bryant,² who in writing of scalds of the larynx, says: "This somewhat common accident is doubtless engendered amongst the poor by the habit of feeding their children out of a teapot." The child when thirsty and alone, being accustomed to drink from the spout, seeks it from the kettle, and so scalds the pharynx and orifice of the larynx, that cedematous inflammation of the part follows in the same way as a blister arises by the application of boiling water or steam to any other tissue. The symptoms caused by such an accident appear, as a rule, very speedily, the small chink of the glottis soon closes, and as a consequence, a fatal result ensues, unless early relief can be obtained. In some cases the mouth, with the soft palate, tongue, and fauces will be found swollen and vesicated. There will be difficulty in swallowing, and some alteration in the character of the voice. The respiration rapidly becomes affected, and a spasmodic croupy cough appears with stridulous breathing. These symptoms may be complicated with attacks of spasmodic dyspnoea, at long or short intervals; but when these attacks appear extreme danger is indicated, any spasm possibly proving fatal."

Mr. Eddowes³ has reported a case of a severe scald of the mouth followed by œdema of the glottis. In this case tracheotomy was performed, but the child died on the fourth day after admission to the hospital. The post-mortem examination showed great venous congestion of the brain, and bubbles of air in the superficial veins of the membranes, some adhesions between the hemispheres, sero-purulent effusion between the dura arachnoid, and the lungs engorged with blood. The mucous surface of the trachea up to the larynx in a state of hyperæmia with appearance of purulent effusion. In the stomach there were two spots of sanguineous extravasation underneath mucous coat. The other organs were examined by Mr. Eddowes, but there is no note of any abnormality attributable to the injury.

A number of steamboat explosions have occurred in this country, in which scalded men have been admitted to the various Marine Hospitals, but it has only rarely happened that the mouth and larynx have been scalded in these accidents. It seems to depend upon the lo-

¹Gant, Frederick James. (F.R.C.S.): The Science and Practice of Surgery, London, 1871.

²Bryant, Thomas (F.R.C.S.): The Practice of Surgery, London, 1872.

³This statement seems to have originated with Marshall Hall, Vide Med. Chirurg. Trans., Vol. xii, London, 1822.

⁴London Lancet, 1879, Vol. ii, p. 122.

cation of the men's berths, and on a majority of vessels, the fore-castle is a safe distance from the boilers. Not so, however, on steam tugs and the smaller varieties of steam water-craft where economic reasons govern the location of the sleeping spaces.

In the harbor of Toulon, in 1859, a steam pipe burst on the corvette "Le Roland," and a number of seamen were badly scalded, and in these cases there were some scalds of the mouth.

The treatment consisted of opiates internally, and the usual topical remedies. At the necropsies it was found that the tongue was denuded, red and bloody, and the muscular structure visible. The interior of the mouth and arches eroded, swelling of mucous membranes of air passages, and general congestion of the viscera.⁵

A somewhat similar condition is seen in the inhalation of hot smoke. Dr. Cohen⁶ relates a case he saw with Dr. Keen, where there had been an inhalation of hot smoke during the conflagration of a burning building. In this case there was "œdema of the larynx threatening suffocation, copious and frequent inhalations of the spray from a solution of the watery extract of opium relieved the suffering, and the patient eventually recovered."

In twenty-eight cases of scalds of the mouth, pharynx and glottis collected by Mr. Durham, twenty-three were fatal. (Ashurst.)⁷

It must be evident on reflection that the lesions from the inhalations of steam, are more extensive, reaching further into the air passages than hot water or other fluids, and the same remark is applicable to those cases where in a burning building a flame is inhaled. In the case of caustic liquids or hot water the epiglottis, by falling down, protects the larynx, but this is rarely the case in the inhalation of steam, noxious gases, or flame.

As a medico-legal point, it is well to remember that severe internal congestions and reflex inflammations may supervene upon the injuries as well as upon those more extensive surface denudations. In short, says Taylor,⁸ besides congestion there is generally abundant serous effusion in one of the great cavities, especially in the head." Rokitsansky⁹ has specially observed after burns of the skin of the abdomen, that they "were in a few instances attended by fatal hæmorrhage from the bowels."

In the post-mortem examination of cases of burns of the mouth, we should remember that after death the œdema is less marked than during life, and allowance must be made for that fact in deciding on the immediate cause of death, for a degree of swelling which involved danger to life,

may, indeed, have almost entirely disappeared when the section is made.¹⁰

Treatment.—Let us now consider the important question of treatment in these cases. The indications are plain, to stop the pain and arrest the swelling. We cannot stop to assure ourselves that the burn is in one or another of the six degrees of Nélaton,¹¹ and then after classification adopt the remedy appropriate to the degree. The swelling of the lining membrane may entirely occlude the upper air passages in a few hours. The remedy then to be useful must be speedy in its operation. Such a remedy we have in sulphuric ether. This, it will at once be seen, acts in the double capacity of a local and general anæsthetic.

The use of ether as a topical dressing of burns is not new. Dr. Nunn¹² refers to its use in recent burns on the surface of the body, superficial in character and limited in extent. He claimed that vesication was often prevented by commencing early, and steadily continuing its use until the pain ceased. Notwithstanding its irritating qualities, in case of the inability to procure ether, Dr. Nunn would use chloroform. The observation of Dr. Nunn in regard to burns on the surface of the body, is precisely in point, in the cases of scalds of the upper air passages, for the œdema follows the vesication, and if by the timely administration of the ether, vesication may be prevented, we have one of the most valuable therapeutic resources, and at the same time complete relief from the agonizing pain quite frequently the most prominent feature.

In my judgment, leeches to the outside of the throat, as recommended by certain text-books, will fail to exert any influence whatever in the arrest of œdema. Both Mr. Gant and Mr. Bryant speak of this means of treatment, but Mr. Gant, regards it as valueless, and in regard to tracheotomy he views it as "only an alternative between death and the possible preservation of life, and that the operation is generally fatal from the supervention of bronchitis or pneumonia."

Mr. Bryant, after referring to the mild cases which scarcely require treatment, speaks of a case of a child "in whom these symptoms were so slight that no anxiety was felt, but one spasm (laryngeal) took place two hours and a half after the accident which put an end to life." When the laryngeal spasms are present, Mr. Bryant early resorts to tracheotomy. In some cases of œdema after tracheotomy, he has found it advantageous to puncture the epiglottis, and the swollen laryngeal opening. An ordinary tenaculum he has found to answer every purpose, although several special instruments have been

⁵ *Gaz. Med. de Paris*, 1859, 35, xiv, p. 26-30.

⁶ *Diseases of the Throat and Air Passages*, N. Y., 1879, p. 99.

⁷ *The Principles and Practice of Surgery*, Phila., 1871, p. 345.

⁸ *A Manual of Medical Jurisprudence*, Phila., 1873, p. 377.

⁹ *A Manual of Pathological Anatomy*, Philadelphia, 1855, Vol. 3, p. 74.

¹⁰ Orth, *A Compound of Diagnosis in Pathological Anatomy*, N. Y., 1878.

¹¹ Nélaton, *Éléments de Pathologie Chirurgicale*, 1844, classified burns according to their severity, and phenomena: *a*. Local phenomena. 1st, 2d, 3d, 4th, 5th, and 6th degrees. *b*. General phenomena, etc.

¹² *Charleston, M. J. & Rev.*, 1855, x, 640.

invented. The calomel treatment still finds advocates, and it is strongly probable that after the acute period has passed, calomel may be of great advantage.

For some inscrutable reason mercurial inunction is still retained in the treatise on this subject as a useful remedy in cases of scalds of the mouth and larynx. If one believes with a noted old surgeon that all diseases originate in the liver, and therefore prescribe ipecac and blue pill for every thing, there is some sort of consistency in the practice, but with different views of pathology there is no good reason for the practice, which should be dropped from the text-books. Sponges wrung out of hot water are useful as a means of allaying pain after the danger of cedema has disappeared.

Ether treatment is the most promising, and I believe it will be found the most successful. It certainly cannot be much worse than the tracheotomy by Mr. Durham, where twenty-three out of twenty-eight cases perished after the operation from either bronchitis or pneumonia, and the ease and comfort given the patient is itself worth a great deal. The amount of dilution in any given case will be governed by the urgency of the case, and the age and strength of the patient, and the duration of its administration will depend entirely upon the pain and the tendency to laryngeal spasm.

After witnessing its very happy effects in the case just detailed, I certainly would place it first among the therapeutical resources in such cases.

SPINAL CONCUSSION.

BY S. V. CLEVINGER, M.D.,

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In THE JOURNAL of Dec. 15, 1888, is published the Proceedings of the Chicago Medico-Legal Society of Oct. 6, 1888, beginning with a paper by Dr. James Burry, Surgeon to the C. S. F. & C. Railroad, who states that within five years \$11,000,000 have been paid as damages by English railway companies in cases of alleged injury to the spinal cord, and \$300,000 to the Chatsworth sufferers, among whom spinal injury cases preponderated. This may seem hard upon the railroad companies, but it would not be reasonable to suppose that the courts would have awarded such sums unjustly in all cases. Imagine the Jay Goulds of the world free to coin millions from the traveling public, unhedged by any fear of damage suits for carelessness, incompetence, or brutal disregard of human life.

Dr. Burry cites the case of Waterman vs. the Chicago & Alton R. R., wherein the defense was that the plaintiff had locomotor ataxia. Inas-

much as that disorder is spinal and may be caused by an injury, the verdict against the road may have been perfectly just. Parallel cases are cited by Spitzka, Gowers, Hoffman and Dana.

The case of Holland vs. the Chicago & Eastern Illinois R. R. to my certain knowledge was a genuine and typical case of spinal concussion, and the verdict of \$30,000 awarded him was little enough for the complete demolition of his health and everything in life worth living for.

The Rozenzweig case vs. L. S. & M. S. R. R. was evidently exemplary.

Dr. Steele's statement that Dr. Phillips was restored to health, "except for a slight lameness," after securing \$80,000 from the London & South-western R. R., implies that the verdict was excessive, which, in the absence of details as to the general mental and physical condition of Dr. Phillips amounts to nothing. "Health" to the casual observer may be restored, but usually in such cases the abilities required of a practicing physician would be lost. Erichsen's work is assailed as affording "overshadowing influence" and the erroneous pathological assumptions of that author are instanced against the general value of his book "Concussion of the Spine."

At the time Erichsen wrote, neurological pathology was undeveloped and so far as spinal concussion is concerned is still *sub judice*. It seemed justifiable to assume that organic lesions were behind the symptoms of the disease, inasmuch as extravasations and inflammatory changes in the cord produce allied neurotic conditions. If Erichsen went too far in guessing at the pathology of concussion he also states that "we should indeed be taking a limited view of the pathology of concussion of the spine if we were to refer all the symptoms, primary and remote, to inflammatory conditions, either of the vertebral column, the sheaths of the spinal nerves, the meninges of the cord or the substance of the medulla itself. Important and marked as may be the symptoms that are referable to such lesions as these that are *primarily dependent on molecular changes in the cord itself*, or spinal anemia induced by the shock of the accident acting either directly on the cord itself, or indirectly, and at a later date, through the medium of the sympathetic, in consequence of which the blood distribution to the cord becomes disturbed and diminished."

The "molecular changes in the cord itself," which I have italicized above, constitute the cause of the symptoms at present assumed by pathologists, and Spitzka parallels it with the un-demonstrable changes that devitalized the egg in railroad transit.

Surely it should not be claimed, when we do not know the pathology of a disease, that the disease itself does not exist, and yet in attacking the errors in pathology of Erichsen the clinical

symptoms of the disorder are ignored or denied. There is a similar inability to demonstrate the pathology of "spinal irritation," "neurasthenia," Landry's ascending paralysis, melancholia, and other grave disorders, but such inability does not abolish the ailments. Nor is anything proven by the fact that Erichsen has not revised later editions of his book, a common failing of authors for which there are many excuses.

Dr. Burry acknowledges that Page is equally faulty with Erichsen, a rather rare admission for a railroad surgeon to make. He claims that upon the "wholly imaginary pathological state, known as anæmia of the cord," is built up "a symptomatology equally vague and illusory," and then sweeps into this all the "mental, psychical and cerebral symptoms," and so on. *Is the symptomatology of concussion built upon Erichsen's pathology? If we knew nothing of the pathology of pneumonia would its symptoms cease? There seems to be special pleading here.*

Next comes the usual allusions to "corrupt practices, fraud, and defeating the ends of justice," as though claimants, almost always, and railway experts seldom, if ever, were corrupt.

In all the cases I have seen it would take a pretty good malingerer to pass the fire of medical inquisition the railroads are able to employ, aside from the *sometimes* bribed juries, of which we have notorious instances, in the corporation's behalf, and the *sometimes* very questionable practices of railway medical experts in ignoring evident symptoms, and even gross objective disorders, and avoiding anything like a scientific examination.

Dr. Lyman, in the discussion which followed, considered Page's book superior to Erichsen's. Page was a railway surgeon, and the very evident intent of his work was to counteract the effects of Erichsen in concussion cases. Dr. Lyman thought that many such alleged cases were cerebral or in other words hysterical. Erichsen characterizes hysteria as "a word which serves as a cloak to ignorance," something like our term malaria. But admitting that there is often an unhealthy emotional condition produced by spinal concussion, as part of the symptomatology, it does not make it any the less an undesirable consequence of the accident.

Westphal, Oppenheim, Rigler, Walton and Wharton Jones effectively disposed of this hysterical substitution for "railway spine," and as Dr. P. C. Knapp says: "Depression, anxiety, loss of memory, mental impairment, the tremor, the exaggerated reflexes, and the swaying with closed eyes, the pronounced paræsthesiæ, the vertigo and headaches (persistent headache being confessedly not a symptom of hysteria), nystagmus, vesical paresis, all these point to something besides hysteria." Drs. Wyllys Andrews and J. G. Kiernan answered many other points raised by the author of the paper.

The establishment of such a disease as spinal concussion does not rest upon Erichsen alone. The literature of the subject is accumulating and by excluding the frequent myelitis, meningitis, compression and other complications, the exact symptomatology is demonstrable, except perhaps to interested corporations.

Room 29, Central Music Hall, Chicago.

CASE OF BREECH PRESENTATION (SACRO-POSTERIOR):

UNSUCCESSFUL ATTEMPT TO DELIVER THE AFTER-COMING
HEAD BY DEVENTER'S METHOD.

*Read before the Medical Society of the District of Columbia, June 27,
1888.*

BY HENRY D. FRY, M.D.,
OF WASHINGTON, D. C.

During the meeting of the Ninth International Medical Congress, held in Washington, in September, 1887, Dr. John Bartlett, of Chicago, presented a paper to the Obstetrical Section, entitled "A Study of Deventer's Method of Delivering the After-coming Head." The mechanism of this method was ingeniously demonstrated at the time by means of a manikin, and the impression conveyed to the members present was favorable as regards the feasibility of delivering the after-coming head by this means.

In the discussion which followed, Dr. Charles T. Parkes, of Chicago, reported three cases delivered successfully by Deventer's method after-failure of the usual modes of extraction, and Dr. G. W. Jones, of Danville, Ill., mentioned his success in a similar number of cases. In the absence of any single method of delivering the after-coming head, that is any method that is so successful as to receive the unqualified endorsement of the profession, it seems to me that Deventer's idea commends itself to us as a valuable aid in special cases. Having been an interested listener to Dr. Bartlett's paper, I determined to employ the method at the first opportunity, and I beg to report to-night the result of that trial.

In the fall of 1887, I was consulted by Mrs. J., who was several months pregnant, regarding the advisability of removing a pessary which she had been wearing for the relief of retroversio uteri. I decided not to disturb the support, and it was allowed to remain in position until several months later, when the fundus had reached a point above the sacral promontory, and all danger of a recurrence of displacement had passed.

Mrs. J., was the mother of five children, and all of her labors had been rapid. Her health had been much impaired on account of the uterine displacement, but since the introduction of the pessary, two years ago, she had been greatly improved. A cough, which she had been told was from weak lungs, had disappeared, she had in-

creased in weight, could take moderate exercise without fatigue, and her despondent spirits had brightened. She passed through pregnancy with little of its inconveniences, and at midnight, May 23d, I received a message that she was in labor. I lost no time in responding to the call, as, judging from the rapidity of her former labors, she had repeatedly expressed the fear that I would not reach her bedside in time to deliver the child. She had been awakened by the discharge of amniotic fluid, and when I arrived labor pains had only commenced.

Digital examination failed to reach the presenting part which was above the brine. Palpation revealed the fetal extremities applied to the mother's abdominal walls, and the head at the epigastrium. The back of the child could not be felt. The pains increased in strength and one hour later had forced the breech into the pelvic cavity. The penis and scrotum of the child were immediately behind the symphysis, further backwards was the anus, and in the mother's sacral cavity, was the sacrum of the infant. The hips failed to rotate, but passed down to the inferior strait transversely.

The patient was changed to the dorsal position and uterine contractions were supplemented by forcible manual pressure upon the fundus. In a short time the breech was born, passing through the vulva in its original transverse position.

The patient was again turned upon her left side; the body came through with a spiral motion and the right shoulder turned under the symphysis. As soon as the shoulders were delivered, the occiput having rotated forward, the child was drawn backwards towards the mother's perineum. The arms which passed up on each side of the head, were not disturbed, and while drawing the child in the direction indicated, efforts were made to bring the occiput down and deliver by extension. The attempt was unsuccessful, and not daring to risk the child's life by continuing my efforts in the same direction, the arms were brought down, the body carried forward toward the mother's abdomen, and delivery promptly effected by flexion of the head. The infant was well developed and cried lustily.

I have reported this case, although the attempt to deliver by Deventer's method was unsuccessful, because I think the fault may have been with myself and not the method.

The want of confidence which is natural to one's first experience with a new procedure, caused me to abandon it quickly when the head failed to come out by extension. Added to the want of confidence was the responsibility I felt that continued efforts might sacrifice the child, nor could I foresee whether or not further delay were in store for me by attempts to deliver in the usual manner, in case I were finally driven to it. In the hands of one practiced in the maneuver the result may have been different.

I shall repeat the experiment at the next opportunity, but with this difference, which is according to Deventer's rules, to place the patient in the dorsal position, the buttocks projecting over the edge of the bed, and to draw the infant downwards in the direction of the floor.

That the lateral position, however, is not a decided obstacle to the success of the method, is shown by the experience of Dr. Jones, reported in the discussion which followed the reading of Dr. Bartlett's paper. Referring to three cases he had delivered by the method in question, he said, they occurred with the mother upon the left side.

From the fact that the infant's pelvis was born with its transverse diameter in the direction of the short diameter of the outlet, it may be surmised that the infant was small. On the contrary it was well developed and weighed ten pounds.

Full particulars of Deventer's method will be found published in the "Transactions of the International Congress" (Ninth session, vol. 2, pp. 438-445).

One cannot read them without feeling that the obstetrician possessed a key to the easy delivery of the after-coming head. Deventer even declares that it is safer and easier to draw the infant out by its feet, even in head presentations, than to allow it to come head first.

MEDICAL PROGRESS.

LANDERER ON A NEW METHOD OF TREATING TUBERCULOUS AFFECTIONS.—The object being to cause cicatrization by inflammation artificially caused, the author, after trials of many things, has fixed upon Peruvian balsam. Sayre's remarkable success with this in spondylitic abscesses induced the author to try it. Applied as a plaster to tuberculous ulceration of glands, Peruvian balsam, though having no action at a distance, causes rapid healing. Internal tuberculous foci were injected by the author with the balsam in the following form: R. Bals. peruv., muc. gum. arab., āā 1.0, ol. amygd. q.s., ut fiat emulsio subtiliss., sod chlor. 0.7, aq. dest. 100.0. This emulsion was used in parenchymatous and intravenous injections. In fifty-one cases the balsam was used. In sixteen the glands were affected, and the balsam was applied as a plaster; any fistula were injected with the balsam in ether, or packed with gauze saturated with balsam; treatment lasted four to twelve weeks, and permanent cure was obtained. Two cases of fungoid ulceration were cured by division, scraping and packing as before. Twenty-nine cases of bone disease included two of the spinal column, one psoas abscess, and one lumbar abscess (the former was injected with the balsam in ether, the

latter was plugged), and three of the hip-joint; all cured. The other cases are given all cured or greatly improved at the time of writing. The lung cases were four, two being far advanced, and these were greatly improved by intravenous injections (1.0 gram twice a week). Two slighter cases were cured. Bladder-tuberculosis was cured by two injections (10 cubic centimetres of a 2.5 per cent. emulsion). The patient is at work three years afterwards. The above-mentioned emulsion is thus used. Five or ten drops are poured into a porcelain capsule, and a 0.7 per cent. solution of NaCl (filtered and made alkaline by a drop of caustic soda) is added drop by drop till the emulsion is made feebly alkaline, the yellowish-grey emulsion taking a greenish tint. The whole is strained through linen, and is now ready for use. For intravenous injections each specimen must be examined microscopically, and, if fat-drops larger than red corpuscles be found, must be rejected. The diluted emulsion only lasts a few hours, but the concentrated keeps for weeks. Parenchymatous injections are made deep to the bone, or into the distended articular cavity, or into fungoid masses; the quantity is usually from half to one cubic centimetre. The injection is painless, or nearly so. Intravenous injections are made by a fine cannula into a vein of the arm after its distension has been caused by a bandage applied higher up the limb rather loosely. If a little swelling arises as the injection is gently made, the cannula is not in the vein, and had better be withdrawn and inserted somewhere else. The quantity must not exceed 1 cubic centimetre. This treatment is not warmly advocated by the author in cases of pulmonary tuberculosis which are far advanced.—E. J. EDWARDS, M.D., in *Lond. Med. Recorder*, Dec. 20, 1888.

DISINFECTION OF SURGEONS' HANDS.—A great deal has recently been said about surgeons' nails and nail-brushes in hospital wards. Bacteriologists have come to the conclusion that the usual washing of the hands with weak antiseptics is quite efficacious in killing pyogenic and specific germs on the hands, but does not destroy micro-organisms which lodge under the nails. Dr. Fürbringer, of Berlin, believes in washing the hands with soap, then in alcohol at 80° F., then in a sublimate solution. The alcohol is said to soak well into the nails. Drs. Roux and Reynès have tried experiments with alcohol on nails purposely infected. In 40 cases where the infection was experimental, and carried on in a laboratory, asepsis was proved in 33. In 8 cases, where infection was clinical, the hands being washed in the usual manner after touching infected fluids in wards, only 4 were proved aseptic after the above elaborate system of washing. Drs. Roux and Reynès nevertheless advocate this antiseptic ablu-

tion, noting that the nails are seldom so thoroughly rubbed after every operation as when an experienced physiologist cleans them after some special experiment. In all cases of enforced sanitary measures routine practices and habits must be taken into account.—*British Medical Journal*, December 22, 1888.

SMITH ON TREATMENT OF PHTHISIS BY CARBOLATE OF CAMPHOR.—Dr. R. Shingleton Smith records two cases of phthisis treated by subcutaneous and intrapulmonary injections of carbolate of camphor. Both cases improved greatly under the treatment. The injections consisted of ten, fifteen or twenty minims of a saturated solution of camphor in carbolic acid, and were at first administered subcutaneously, and afterwards into the lung-tissue about the diseased areas in the apices. The latter gave rise to no sign of lung irritation, and the subcutaneous injections produced slight smarting only. These were given at first every second or third day, but afterwards daily, and about fifty injections in all were used in the course of ten weeks, in the first case. In the second, the whole quantity injected in twenty-five days amounted to 245 minims, 60 minims having been diffused in the diseased tissues in the apex of the right lung. The intra-pulmonary injections were preferred by one of the patients, as they "did not hurt so much as the subcutaneous ones." A slight rise of temperature was observed after the injections in one or two instances, but no other evidence of irritation was noticed.—E. CLIFFORD BEALE, M.B., in *Lond. Med. Recorder*, Dec. 20, 1888.

FATAL VOMITING FROM INTESTINAL STENOSIS.—The following case is recorded by SMITH. A girl, æt. 18, was seized with uncontrollable vomiting, not feculent in character, for which no cause could be discovered. There was no fever, no meteorism, and no history of any intestinal trouble, except that the patient had on more than one occasion about a year previously passed blood with the stools. As all other treatment seemed useless, it was decided to open the abdomen. After a prolonged search nothing could be found, and a few days later death took place. At the *post-mortem* examination, the small intestine towards the lower part of the ileum was found to be narrowed for about an inch, so that it would scarcely admit the little finger.—*Centrblt. f. Chir.*, 1888.

AN APPLICATION FOR BURNS, suggested in *Centralbl. f. Therapie*, is the following:

Olive oil.	
Lime water.	aa 6 parts.
Salol	1 part.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, JANUARY 12, 1889.

LAPAROTOMY IN GUN-SHOT WOUNDS OF THE
ABDOMEN.

In the columns of a recent number of our valued contemporary, the *Boston Medical and Surgical Journal*, there appears an article on this subject by DR. W. B. COLEY, who publishes an interesting series of tables relating to the treatment of these wounds. He has collected 74 cases and he divides them into three classes: 1, those operated upon within the first twelve hours; 2, those operated upon after twelve hours; 3, those in which the time is not stated. He quotes 39 cases in the first class, with a percentage of recoveries of 46.6 per cent. In the second class he quotes 22 cases, with a percentage of recoveries of 22.7 per cent. Class 3 contains 13 cases, with a percentage of recoveries of 57 per cent.

Dr. Coley refers to the opinions of M. Réclus, who claims that his experiments show that perforation is not necessarily present, and therefore laparotomy need not be performed unless the signs of perforation are unmistakable. Réclus advises that the following treatment should be pursued: 1. Firm compression of the abdomen to check hemorrhage and fecal extravasation; 2. administration of large doses of opium; 3. when this treatment fails, then resort to laparotomy.

Let us consider the grounds on which American surgeons advise operation. In the first place, the literature of the profession is clearly in its favor, although the pendulum of surgical opinion has vibrated back and forth.

"When a large Wound is made in the Cavity of the Abdomen, that not only lets out the Intestines, but also divides some Part of them, the Surgeon ought always to stitch up the wounded Parts of the intestines before he returns them. By this means we may not only expect the Wound to heal more readily, but the Discharge of Chyle and Faces into the Cavity of the Abdomen, which would bring on great Mischief, is prevented."—*Heister*.

"But if the great intestines be wounded, and the excrement discharge that way, it may be reasonable to lay open the wound and stitch the gut with the glover's stitch, sprinkling it with some of the aforesaid agglutinatives, and reducing it back, stitch up the external wound of the belly, as hath been said."—*Wiseman*.

"But the question may be asked here [in case of concealed wound] whether a surgeon may not prudently, in this case, enlarge the wound of the abdomen, that he may be able to discover the injured intestine, and treat it in a proper manner. Truly, I can see no objection to this practice, especially if we consider that upon the neglect of it certain death will follow, and that we are encouraged to make trial of it by the successes of others. Scacherus,² in *Programmati Publica*, Leipzig, ed. 1720, mentions a surgeon who performed this operation successfully."—*Heister*.

"With very few exceptions bullet wounds into the abdominal cavity are fatal. It may be a question worthy of serious thought, in view of the hopelessness of our present practice, whether we ought not to cut boldly into the abdominal cavity, wash out the filth and, bringing the wounded intestines to the surface, endeavor to produce an artificial anus."—*Andrews*.³

"In examining the external wound, when no protrusion exists, should we find an escape of fecal matter—which proves that the bowel has been perforated—the abdominal wound must be enlarged and the wound in the intestine closed by suture. This is the only expedient for saving life, for if the contents of the bowel are allowed to escape into the peritoneal cavity, a fatal issue must be expected."—*Chisholm*.⁴

"Already interference contrasts favorably with the do-nothing system. Reflection upon the results of ovariectomy, upon the results of gastrostomy and enterostomy, applied to protruded wounded viscera, leads unavoidably, in the writer's opinion, to a conviction of the propriety of incising the abdominal wall, when necessary, in order to expose and sew up the wounded gut concealed within the cavity, whether divided by a cutting instrument or shot. The obstacles to success are obvious, but it is a mortal peril which demands an extreme remedy."—*Otis*.⁵

"I have the deepest conviction that there is no more danger of a man's dying of a gunshot or other wound of the peritoneal cavity, properly treated, than there is of a woman's dying of an ovariectomy, properly performed. . . . And by the application of the same rules that guide us in ovariectomy to the treatment of gunshot wounds penetrating the abdominal cavity, there is every certainty of attaining the same success in these that we now boast of in ovariectomy."—*J. Marion Sims*.⁶

"When any of these conditions are present, the duty of the surgeon is clearly to enlarge the opening in the abdominal wall or to make a new one in a more favorable location, sufficiently to admit of an examination of the viscera in the track of the wound, to detect and ligate bleeding vessels, to suture intestinal rents, and to thor-

¹ Wiseman, "Of Wounds of the Belly," book 5, chap. viii. London, 1676.

² This was a mistake. The author was Friderici, who made an inaugural address before Scacherus (*Otis*).

³ Heister Laurentius, *Institutiones Chirurgiæ*.

⁴ "Record of Battles Fought near Vicksburg," p. 34. Chicago, 1863.

⁵ Chisholm, J. J., "A Manual of Military Surgery for the Use of Surgeons in the Confederate States Army," p. 350. Richmond, 1862.

⁶ "Medical and Surgical History, War of Rebellion," part 2, surgical volume, p. 128.

⁷ British Medical Journal, Mar. 4, 1882.

oughly cleanse the peritoneal cavity of extravasated matters."—*Pilcher*.⁸

"Primary abdominal section in the mid-line gives the best command over the damage done and furnishes the most feasible opening through which the proper surgical treatment of such damage can be instituted. Further, its adoption adds, but little, if anything, to the peril of the injury."—*Parkes*.⁹

"I desire now to call attention to the fact that operative interference for gunshot wounds of the abdomen has been put to a practical test and that it has been successful, and I hope that other members of this society may share my conviction that this plan of active treatment is now justified by these two successful cases, and that it should be adopted (within proper limits) to the exclusion of the 'let-alone policy.'"—*Bull*.¹⁰

"The known tendencies of penetrating ball-wounds of the viscera being admitted, the indication to operate follows of necessity on proof of the injury. By operation alone can the parts be put into such a condition that spontaneous recovery is probable, or it might almost be said, possible."¹¹

"A penetrating wound of the abdomen, left without surgical interference, is attended always with great danger. If any vessels of size are divided hæmorrhage is an immediate danger, and peritonitis a serious and probably fatal complication. If the alimentary canal is opened, death is almost inevitable. The few recorded cases of recovery form such an infinitesimal proportion of the whole that they should carry no weight against interference. . . . If it [the wound] extend through the wall the abdomen should be opened and the condition of the viscera examined."¹²

In the second places, the experiments of GROSS and PARKES, particularly the latter, show conclusively that the relative liability to perforation and of hæmorrhage have not been overstated. It is an unsound argument to urge that because PARKE'S experiments were upon dogs, their teaching should be rejected, for those experiments referred particularly to the organ wounded, and did more to fix surgical opinion in this country than any that had preceded them. As to the question of diagnosis, we now have a certain means of detection of perforation in the use of the hydrogen gas as advocated by SENN. It is only in cases of hæmorrhage that there can be uncertainty in the diagnosis—and unfortunately, this is of somewhat frequent occurrence. The evidences of severe shock or syncope would certainly be conclusive testimony as to the wound of a large blood-vessel, but in wounds of the smaller vessels, hæmorrhage going on insidiously, would almost as certainly prove fatal, as cases with the more pronounced symptoms. Nor would we feel safe in trusting such a patient to the results of the application of a body bandage,

however snugly it may be applied. The dangers of median exploratory laparotomy are by no means great, and if it is found there is neither wound of intestine nor blood-vessel, the patient will run little additional risk, provided the operation be performed by an experienced operator.

It is gratifying to add, that as Americans we take pleasure in recalling that our Dr. Kinloch was the first in recent times to practice the operation, and that following Kocher's successful case, were two successful cases in 1885, one each by BULL and HAMILTON, in the order named, and BULL in the same year had the fourth successful case, and that the results of the experiments of our PARKES and our SENN have placed the teachings of American Surgery once more in the van, where McDowel placed it a half century ago.

THE INFANTICIDE REVELATIONS.

"O wad some power the giftie gie us
To see oursels as ithers see us,
It wad frae mony a blunder free us
And foolish notion."

The wish of Burns has been vouchsafed to several physicians of Chicago during the past few weeks, and to a few the glance in the mirror has not been a pleasant one.

One of the daily newspapers of this city, the *Chicago Times*, sent out a presumably captivating young woman who acted as a reporter for that paper to visit certain physicians and registered midwives. She represented that she was unmarried, of good family, that she had lapsed from the path of virtue and in consequence was now six weeks *eniente*. The tale was told with many a pearly tear trembling on her pretty little eyelids, and the physician interviewed was requested to relieve her from the consequences of her fault. A few readily consented, some gave the attractive young woman a moral lecture, others sent her away brusquely, and a few told her of persons believed to be engaged in the abortion business, and got rid of her as quickly as they could. The enterprising young person printed the respective interviews, in her own language, which in some instances made rather sensational reading and as a whole seem to convey the impression that the views of the medical profession as a body are more lenient toward the sin of abortion than they should be. It should be remarked, however, that

⁸ *Pilcher, Lewis S., "The Treatment of Wounds," pp. 356-7. New York, 1883.*

⁹ *Parkes, Chas. T., "Gunshot Wounds of the Small Intestines," Chicago, 1884.*

¹⁰ *New York Medical Journal, Feb. 14, 1885.*

¹¹ *Greig Smith, "Abdominal Surgery," Second Ed. London, 1888.*

¹² *Wyeth, "Text-book on Surgery," New York, 1887.*

a large proportion of the older members of the profession were not approached. Those comparatively unknown were most frequently reported, and the statements now published will have to be substantiated in the courts, as one of the physicians implicated has begun suit against the *Times*; until then it will be well to suspend judgment.

It is a thankless task to expose so fearful a secret crime, but the *Times* has done well to bring public attention to the evil consequences of allowing abortionists to go on unchecked in their career of crime. But all the parties to infanticide are equally guilty, the instigators as well as the perpetrators, and while we look with pity on the unfortunate doctor whose weak sympathy leads him to commit crime to prevent disgrace to an unfortunate young woman; and with horror upon the professional scoundrel who makes it a business, let us also condemn the other party to the act. There can be no premeditated infanticide without the coöperation of the unwilling mother, and while hers is not infrequently the worst punishment it must be remembered that she deserves it. *The crime begins, therefore, with those who solicit the practice.* And it would have a wholesome effect if physicians instead of being gentle with such persons and delivering free moral lectures to them, would simply hand them over to the police.

It is all very fine to feel a deep sympathy with the best patron, Madame Cræsus, whose social life might be inconvenienced, or for one to have a tender feeling for the blooming Mademoiselle Dive, who is fearful of being disgraced publicly when the private disgrace is already hers, but such sympathy and tenderness are not common sense, and common sense is needed in dealing with the frail diplomats who come into a physician's office with a whole cargo of sighs, tears, cajoleries and entreaties. The times have changed since the Revolutionary days, when early marriages and large families were deemed as evidences of patriotism. Our people have forgotten that it is patriotic to have large families, and in consequence we see that it is the foreign population in our midst that have the bulk of the increase. Large families are now rare in American households, and while public sentiment remains blind to this growing evil it is useless to expect that the murderous trade of the abortionist may be extinguished.

The work of the *Times* is therefore to be com-

mended, not less as an effort to arouse the public to a realization of the effect of continued popular apathy on this subject, than to expose the guilty.

The medical profession of Chicago, who do not claim to be better, are no worse than elsewhere. They have come out of this investigation better than would those of some other cities we could name; but whether a similar investigation is set on foot elsewhere or not, it is self-evident that if there were none to be patrons, there would be no abortionists.

Popular education on this subject should therefore at all hazards be stimulated rather than suppressed, and the erring should be taught that a "blush on the face is better than a blot on the heart."

EDITORIAL NOTES.

WORK FOR THE ASSOCIATION.—The American Medical Association is growing rapidly and yearly gaining in power, but it requires work by the members to increase it so that it shall become the greatest medical society in the world. We urge the members of the Association to look about them and whenever a member of a local society in good standing is found who is not already a member, urge him to send on his application to the Treasurer DR. DUNGLISON, without delay. Look at the example of the British Islands, and think what an association the medical men of this country could make if they only set about it in earnest!

THE NEW MARINE-HOSPITAL SERVICE LAW.—The following is the Act to regulate appointments in the Marine-Hospital Service of the United States which has just become a law:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That medical officers of the Marine-Hospital Service of the United States shall hereafter be appointed by the President, by and with the advice and consent of the Senate; and no person shall be so appointed until after passing a satisfactory examination in the several branches of medicine, surgery, and hygiene before a board of medical officers of the said service. Said examination shall be conducted according to rules prepared by the Supervising Surgeon-General, and approved by the Secretary of the Treasury and the President.

"SEC. 2. That original appointments in the service shall only be made to the rank of assistant surgeon; and no officer shall be promoted to

the rank of passed assistant surgeon until after four years' service and a second examination as aforesaid; and no passed assistant surgeon shall be promoted to be surgeon until after due examination: *Provided*, That nothing in this Act shall be so construed as to affect the rank or promotion of any officer originally appointed before the adoption of the regulations of eighteen hundred and seventy-nine; and the President is authorized to nominate for confirmation the officers in the service on the date of the passage of this Act."

From the above it will be seen that hereafter there is but one way to enter the Marine-Hospital Service and that is through the portals of the Medical Examining Board.

THERE are a little more than eighty thousand persons practicing medicine in the United States, of whom more than sixty thousand are regular practitioners. When one-third of the regular profession are members of the American Medical Association we can have the strongest organization, and the best medical journal in the World.

CHICAGO MEDICAL SOCIETY.—The Chicago Medical Society at its meeting held Monday, January 7, took action on the following report of the Judiciary Committee:

"MR. PRESIDENT.—At the last regular meeting the Judiciary Committee was formally instructed to investigate the truth of the scandalous newspaper charges against the moral and professional integrity of certain members of the Society, to the effect that they had consented to produce criminal abortion on the person of a young woman newspaper reporter in the employ of *The Chicago Times*.

"Of all members of the Society who have been thus publicly accused in *The Times* newspaper only one has appeared before your Committee and demanded a hearing—Dr. Andrew J. Coey. Your Committee has fully and fairly examined the charges against this gentleman and found that the interview actually occurred, as published, and that the report of it is substantially true in every particular and is so acknowledged to be by Dr. Coey.

"The report of the interview shows that Dr. Coey neither consented nor refused to perform criminal abortion, but he made an appointment with the young woman for the following day, ostensibly for the purpose of examining her and ascertaining whether any impediment existed to the safe induction of abortion. This appointment appears to justify the inference that if no pathological peculiarities had been found he might have been willing to take charge of the case.

"This inference is not supported, however, by any specific committal on Dr. Coey's part. On the contrary, that his apparent intention was not his real intention is clearly proved by what followed; for in the same minute that the young woman was discharged from his consultation-room, Dr. Coey denounced her as an adventuress of some kind and expressed the opinion that she was not pregnant at all to his office companion, Dr. E. V. McDonald, who was sitting in the reception-room at the time and had seen the young woman as she passed through.

"Furthermore, Dr. Coey took immediate measures to secure the presence of a police officer in his office at the

hour fixed by the appointment with the young woman on the following day. The police officer was present and under instructions from Lieuts. Shea and Kipley, of the police force, to keep track of the young woman if she were really found to be pregnant, and learn if and by whom criminal abortion was induced; and if she were not pregnant, as was suspected by Dr. Coey, to intimidate her into divulging her purpose in visiting him. All evidence is in the form of affidavits, and your committee does not question the accuracy of a single statement; hence the charges against Dr. Coey's character which are embodied in the headlines of the reported interview, and in various editorial discourses upon the same, are not only not justified by the language of the interview, but are shown by the events which followed to be without foundation in fact.

"Your committee also reports that it has investigated the professional status of Dr. E. H. Thurston quite independently of the allegations against his moral and professional character which appeared in the *Times* newspaper, and found that he is not worthy of membership in this Society. Your committee recommends, therefore, with the full concurrence of Dr. Thurston, that he be summarily expelled. Respectfully submitted."

The report is signed by Drs. William E. Quine, chairman; E. J. Doering, and A. H. Foster.

HE ACCIDENTALLY SWALLOWED A TOOTH.—A special to the *Chicago Tribune* from Galena, Ill., says: John Edwards, an Illinois Central engineer, who was supposed to be dying of quick consumption, in a paroxysm of coughing last night emitted from his throat a bony substance, which, on examination, proved to be a large double tooth. A few weeks ago Edwards underwent the operation of having his upper teeth extracted for a false set, and during the operation, which was rapidly performed, one of the teeth, without the knowledge of either the patient or operator, dropped down the throat, it is supposed, and lodged in the windpipe, where it caused the irritation which was thought to presage consumption.

OBITUARY.—On Saturday afternoon, December 1, Dr. William M. Brinton, President of the Allegheny County Medical Society, died at his residence in Sharpsburg, after a short illness, of typhoid fever. Dr. Brinton was graduated at Jefferson Medical College in 1875, and immediately thereafter began practice in Sharpsburg. Dr. Brinton joined the American Medical Association in 1886.

Mr. Jordan W. Lambert, of the Lambert Pharmacal Co., of St. Louis, died in that City January 6, 1889. Mr. Lambert was one of the leading pharmacists in the United States, and an active and energetic business man. He will be greatly missed.

¹ Dr. Thurston is not a member of the American Medical Association.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

Regular Meeting, June 21, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D., IN THE CHAIR.

DR. WILLIAM G. WHEELER, of Chelsea, Mass., read a paper on

SEPTICÆMIA,

of which the following is a brief abstract :

I wish to present one case to emphasize the following points :

First.—That blood poisoning may, and does, complicate low forms of disease, as in dysentery, typhoid fever, etc.

Second.—That septicæmia often complicates the after-treatment of ovariectomy, and is more frequently a cause of death than was formerly supposed.

Third.—Blood poisoning increases the hazard, and has been considered by some a bar to surgical interference with extra- and even intra-uterine fibroids.

Case 1.—My patient, a woman æt. 35 ; married five years, had no children. Menstruation regular but scanty ; thin in flesh ; general health fair. Her trouble was a mono-cyst, ovarian in character, of about three years' growth, weighing with contents about 20 lbs.*Operation.*—I found extensive firm adhesions on the right side, both front and back, also to omentum and portions of small intestine. One layer of cyst wall was left attached to colon. The pedicle, which was not large, was transfixed, tied and replaced in cavity. I was obliged to tie eighteen bleeding points upon the omentum, fine catgut ligatures being used. The incision was 4 inches in length, which was closed with No. 9 silver wire sutures.

In twelve or fifteen hours later the patient had rallied from the operation, with slight vomiting and comparatively little pain, followed by a reasonable amount of sleep. The pulse and temperature were little disturbed, until the sixth day the symptoms were favorable, when tenderness and pain began in the right lower abdominal region. There was increase of temperature and pulse, great restlessness, with insomnia. The stomach and bowels became irritable, followed by great prostration, chills, sweating, and delirium, which symptoms continued to increase in severity until the tenth day, when the patient passed into a comatose state.

On the morning of the eighth day, four days after the appearance of the septicæmic symptoms, I detected a fulness in the right lower abdomen just under where the adhesions

were found. I immediately removed two sutures from the lower angle of my incision and passed into the cavity a new English catheter ; by this means I was enabled to evacuate two or three ounces of a thin fluid (*not pus*) about the color of prune-juice, having an unpleasant foetid odor. The cavity was then washed out with a solution of carbolic acid two or three times, alternating with boracic acid.

From this hour all of those symptoms of septicæmia which had been so pronounced and threatening soon became milder ; the temperature lowered, the stomach and bowels quieted ; gradually the mind cleared, strength returned slowly, and, as it were, the patient came back to life again, making a gradual recovery. In three months from the day of operation she returned to her home and friends.

First.—In the examination of over 100 reported cases of blood poisoning, I find that in almost every case the patient's system was in a depraved condition, either due to old age, overwork, or a shattered nervous system. My experience has been that anæmic patients are very susceptible to the influence of and rapidly take on those conditions which tend to produce the most profound septicæmic symptoms. In any case where the blood condition is below the normal standard, following or due to low forms of disease, such as typhoid, etc., I believe that septicæmia will inevitably follow any capital abdominal surgical operation. It behooves us all to look well to the general condition of our patients before attempting any surgical operation.

Second.—It was formerly taught that death following abdominal section was always due to surgical shock. J. Marion Sims was the first surgeon to refute this idea. In my opinion a large percentage of the deaths were due to septicæmia, as in my own experience I have seen the most profound symptoms of shock relieved as by magic upon the evacuation of pent-up pus from a cavity and the institution of prompt and effectual drainage. In this case reported above had I not opened my incision and improvised a more perfect system of drainage my patient would soon have been enrolled with the many victims to surgical shock, *according to the old teaching*. On the other hand, this was a typical case of septicæmia following ovariectomy, where life was saved by prompt drainage. We may lessen the number of cases of septicæmia by instituting at once the *most thorough drainage system possible*.

Third.—For the above reasons, viz., depraved system and poor drainage systems in use to-day, coupled with a lack (on the part of our surgeons of the present generation) of that physical determination, which will induce him to adopt such measures as shall enable him to cope with such conditions as may arise. To overcome this seeming bar to surgical interference with fibroids : 1.

We ought to study well our patient. 2. We should familiarize ourselves with the minutest detail of the operation. 3. To adopt the surest system of drainage. *Insist upon perfect drainage*, and I am sure that septicæmia will be a condition rarely encountered.

DR. L. F. WARNER said that he had been much interested in the paper. The products of a wound, including the serous discharge, become poisonous when separated from the living body. The object of the older surgeon in allowing a wound to glaze by exposure to the air was to prevent any oozing into the wound cavity, and thus to prevent poisonous changes. The corrosive sublimate solution of the modern surgeon acts in the same way by coagulating the albuminous elements of the tissues. These poisonous changes in the discharge from wounds take place very rapidly and the fatal result may occur very early. The exact character of this septic fluid is not known, and we do not yet know accurately what changes occur.

DR. H. C. WHITE said there are undoubtedly many forms of septicæmia which are not yet recognized; diphtheria, in its later stages at least, is a form of septicæmia. His treatment of this disease has been on this theory, and its success had strengthened his belief that all diseases of a septic character can be best treated by remedies which are directly antagonistic to the agents which cause the disease. The most common of these remedies are acid sulphurous, the sulphites, the hypophosphites, etc. Experiments have proven that septic material injected into animals causes death, while exactly similar matter injected into an animal which is under the influence of antiseptic remedies does not cause death. Whenever you succeed in securing the full effect of such remedies in diphtheria, recovery may be expected.

DR. R. C. McDONALD had used sulphurous acid and the sulphites with success in different forms of septicæmia.

DR. A. P. CLARKE said that without doubt antiseptic remedies and agents were used prior to our day, but with no definite understanding of their origin or mode of action. Even Lister believed the germs of disease came from the air, but more recent investigation shows that the infection of wounds more usually results from unclean hands and instruments. Dr. Clarke said that he had no faith in the use of antiseptic drugs which act through the circulation.

DR. HANSCOMB asked if it were possible to change the blood with antiseptic agents to an extent sufficient to affect the general system.

DR. L. F. WARNER replied that we could kill our patient before that end was gained.

DR. H. C. WHITE said that our object in the use of such agents was to so sterilize the field that germs can not live.

DR. M. L. BROWN believed that we do not have

sufficient local treatment in diphtheria. The disease is local at first, and vigorous local measures may cure it.

DR. JACKSON, of Fall River, a guest of the Society, said that his ideas in regard to the exact character of septicæmia were shadowy. The first practical question which should be investigated is: By what avenue does the disease germ enter the body? Is it by the air, by instruments, or is it developed in the organism itself? When this question is settled, then our remedies or agencies can be intelligently directed to guard the system from infection. In some forms of septicæmia sulphurous acid and the hypophosphites are of great value.

DR. L. F. WARNER, in referring to cholera, said that he had no fear of the germ if it did not find a suitable home. As chloasma will not develop in the skin of a perfectly healthy person, and the pollen of a toadstool will not germinate unless it finds congenial soil, so cholera will not attack a person who is well and who lives among hygienic surroundings. Something must prepare the field for this disease, as bad air, imperfect drainage, and improper food.

DR. F. C. BURT said that we do not know the exact cause of trouble in wound infection, neither do we know the exact relation of microbes to these changes. We do know, however, that germs always appear in wounds thus affected. Dr. Burt had had no experience with septicæmia in operative work. There is no case of operation without some elevation of temperature, but it is a question whether the condition is identical with the process usually known as fever.

DR. W. SYMINGTON BROWN said that the paper was a very practical one. In considering a question like septicæmia there were two elements to be treated, *i.e.*, the theory and the practice. In the past we have had too much theory. The captain of an ocean steamer uses only known facts in controlling his vessel, so the surgeon should depend solely on what is actually proven in his work. A man has only a certain amount of mental energy. If then a great part of this is expended in the study of theories, he has less to apply to the more practical work of his calling. There is much we do not know in regard to poisoning by germs, but we do know that gases developed in the animal organism may cause death.

A TOOTH AS A SOUVENIR.—As this is the season of the year for exchange of gifts, St. John's county comes to the front with the most novel on record. A young man near St. Augustine, though having sound teeth, had them to near for beauty, so he had his eye teeth extracted, took them to a jeweler, where they were polished, dyed and mounted in gold as a pair of earrings for his best girl.—*Savannah News*.

American Medical Association.

Section on Dermatology and Syphilography.

L. DUNCAN BULKLEY, M.D., CHAIRMAN.

F. DUNLAP, M.D., SECRETARY.

FIRST DAY, MAY 8, 1888.

The discussion on the

ETIOLOGY AND TREATMENT OF ECZEMA

was opened by DR. BULKLEY, who said:

The question presented for our discussion this afternoon is one of such magnitude that it is manifest that not more than the outlines for consideration can be sketched at present.

In the etiology of the disease we have to distinguish between the predisposing and exciting causes of eczema, between the constitutional state or condition, and the special determining causes of the attack, internal and local.

We know as yet nothing of the real internal causation of eczema except as we can observe clinical facts of the association of certain symptoms or conditions of system in connection with and apparently causative of the disease.

I believe the first element to be recognized is *debility* in some form or other. Eczema never occurs except as an evidence of lowered vitality, either general or local. The local element will be considered later in connection with the local exciting causes of the eruption.

The evidences of debility in eczema patients take three general forms: First, those which relate to digestive and excretive functions; second, those which affect the nervous system and present neurotic symptoms; and, third, those connected with nutrition, or the life process of the body, known as the scrofulous or strumous state.

The first of these is by far the most common, forming fully one-half of all cases, and represents what is known as gouty eczema; the second, or nervous causes, may exist alone in a certain proportion of cases, but often enters as an element in patients belonging to the first class; the third, or strumous condition, is less common than the others, and rarely determines the disease alone, without the intervention of the two preceding causes.

This lowered vitality may come from many causes. In some instances simple over-work or worry, producing nervous exhaustion, may induce and keep up the disease. In more cases assimilative debility, manifested by disorders of the digestion and excretions, plays the most important part, while in other instances a strumous condition of the system seems to be the main factor, and in a few instances heredity is an important element.

These elements in the causation of eczema may be briefly tabulated as follows, which, of course

but imperfectly suggests many of the true etiological factors in the disease.

CAUSES OF ECZEMA:

Constitutional and general causes.	1st. Predisposing.	<ul style="list-style-type: none"> Heredity. Gouty or arthritic diathesis. Neurotic diathesis. Strumous diathesis. 	
	2d. Exciting.	<ul style="list-style-type: none"> (Debility. Digestive disorders. Nervous depression. Climatic. 	
Local or external causes.	1st. Predisposing.	<ul style="list-style-type: none"> Occupation. Diet. 	<ul style="list-style-type: none"> Sedentary. Standing. Irritating.
	2d. Exciting.	<ul style="list-style-type: none"> Climatic. Occupation. Diet. Irritants. 	<ul style="list-style-type: none"> (Sudden exposure to heat and cold. (Prolonged exposure. (Long confinement. (Long standing. (Irritants. (Acids. (Sweets. (Tobacco. (Soaps. (Ointments. (Scalds. (burns, blisters, and other irritants.

Digestive derangements are undoubtedly the most important elements to be considered etiotogically in eczema, and again and again their effect may be observed by careful study in many cases. Acidity will always aggravate an eruption of eczema of any extent, and constipation will often be followed by fresh outbursts of the same.

DR. ZEISSLER, of Chicago, said there are two theories concerning eczema: The first, advanced by Hebra, that eczema came from local causes. His strong argument in favor of this theory was, that he could produce a local eczema in any individual, in any place, and at any time. His successful treatment lent weight to this theory. The second theory, held extensively in England and America, represents eczema as a constitutional disease, due to ill nutrition. The truth probably lies between these two theories. Many cases are no doubt due to local causes, *e.g.*, eczemas of washerwomen, shoemakers, surgeons, exposure to sunlight, etc. These may, however, be explained by individual peculiarities. Many cases are undoubtedly due to internal causes, but to ascribe all cases to constitutional causes is to transcend our knowledge. Eczema in children is sometimes due to nervous causes, as in teething. Rheumatism is a cause of chronic eczema. Disturbances of digestion are too often blamed as the cause of eczema, for the number of cases of indigestion is out of proportion to the number of cases of eczema, except in infancy. Whether eczema be due to organisms remains to be seen; if so, many subdivisions of what we now regard as one disease will have to be made. I believe in local treatment, but my views have, of late, been modified. I limit the use of arsenic to chronic, dry eczema.

DR. SHOEMAKER had observed a number of cases of eczema accompanying rheumatism. In these cases the eczema persisted as long as the rheumatism lasted. The rheumatic condition is

often overlooked. A torpid condition of the liver is often found. Many remedies might be named. He would call especial attention to the use of arsenic by hypodermatic injections and suppositories in persistent cases which had resisted the same remedies given internally. In cases where the disease is limited in extent and the infiltration marked, hypodermatic use of arsenious acid or arsenical salts two or three times a week, increasing the dose from one-tenth to one-half grain, has proved beneficial. In cases where this has not been permitted he has had good results from giving by the rectum an arsenical salt, increasing the dose from one-fourth to one grain every other day.

There is another class of remedies, namely, the surgical or mechanical method. These are massage, faradization and galvanism. Old cases where other remedies have failed have yielded to massage, the skin becoming soft, and the infiltration disappearing. In other cases the faradic current has been equally successful. Galvanism with a strength of ten, fifteen, or even twenty cells, pressed lightly upon the skin has afforded as ready relief as massage.

DR. RAVOGLI said, in considering the etiology, it is necessary to look at the general condition of the individual. The same cause often works different in different individuals. This is due to the general condition of the skin, whether it is soft or tough. Thus we find that age makes a difference. The symptoms in children are entirely different from those in adults. It is more acute in children, and in old age more chronic and inclined to the scaly form. He did not believe in a scrofulous eczema. Eczema is a catarrhal condition of the skin. Scrofulous subjects may, however, be more predisposed to eczema. Obstacles to the circulation, as scars, fractures, and varicose veins, are sometimes a cause of eczema. Had had excellent results with the use of salicylic acid and resorcin in eczema of children.

DR. REYNOLDS, of Chicago, said that the causes of eczema were both local and constitutional. He relied most upon the local treatment, never losing sight of the constitutional condition, which may aggravate or prolong the disease. For the local treatment, he divided eczema into acute, sub-acute, and chronic cases. The treatment of the first was soothing, of the second soothing and mildly stimulating, and of the third stimulating. The other constitutional conditions, of course, require their proper treatment.

DR. RICKETS, of Cincinnati, said that he had seen a number of cases in the city during the late epidemic of typhoid fever, and had invariably found an excess of acid in the urine. What relation there was between this fact and the eczema he did not know.

DR. FLEISHNER, of New Haven, said that the gouty eczema was a new form to him. That

eczema was due to blood-stasis, either venous or arterial. He believed struma a cause. He considered that Hebra's experiment in the production of eczema proved nothing, nor was it established that it was caused by special occupations. Such coincidences might be due entirely to similarity of conditions. In the treatment he had found arsenic of great value, but he uses it less than formerly. He believed in the three-fold division of the disease. He had obtained good results from mild external treatment, especially from the use of the ointment of rose-water. In some cases he found great benefit from free purgation.

Dr. William T. Corlett, of Cleveland, O., read a paper on

A CLINICAL STUDY OF SO-CALLED PRAIRIE ITCH, LUMBERMAN'S ITCH, ETC., WITH A CONSIDERATION AS TO ITS ENTITY.

(See THE JOURNAL, vol. xi, p. 517.)

DR. ZEISSLER opened the discussion of Dr. Corlett's paper by saying that the cause of the so-called prairie itch was ignorance in regard to skin diseases. The doctor related several incidents showing the ignorance of many of the general practitioners with regard to dermatology.

DR. REYNOLDS said that his practice in the West had given him opportunities for seeing many cases of this so-called new disease. He had always found that this diagnosis was made by men who were not especially well posted in dermatology. All the cases of prairie itch he had ever seen, were typical cases of eczema. He saw little of scabies, but many cases supposed to be scabies were, in reality, eczema. The peculiarity of the prairie itch is the appearance of contagion, which is thought to distinguish it from eczema. This imaginary contagion may be due to the fact that all of a family are under the same hygienic, dietetic, and local conditions. Itching seems to be almost contagious, and the scratching ensuing may occasion a disease of the skin.

(To be concluded.)

Medical Society of the District of Columbia.

Stated Meeting June 13, 1888.

DR. C. W. FRANZONI, IN THE CHAIR.

DR. JOHN B. HAMILTON read a report of TWO CASES OF SCALDING OF THE AIR-PASSAGES BY THE ACCIDENTAL INHALATION OF STEAM, WITH REMARKS.

DR. HENRY D. FRY read a

CASE OF BREECH PRESENTATION (SACRO-POSTERIOR).

(See pages 49 and 51.)

DR. SMITH said there were two questions to be considered in connection with the paper read by

Dr. Fry. The first is, Was this case one calling for the application of Deventer's method? The other, Was Deventer's method followed in the treatment of this case? Having studied Deventer's method he had come to the conclusion that it was not an efficacious one. In only a small proportion of head-last cases was interference called for, and these were usually cases in which extension had taken place and the chin become fixed above the symphysis. Dr. Smith would not admit that a method which permitted the arms to be applied to the sides of the head, and thus increasing the bulk of the body which had to pass through the pelvis, was founded upon a scientific basis. Cases in which the followers of Deventer would apply force in effecting delivery, Dr. Smith would leave to the natural forces. If satisfied that the woman was not able to extrude the head of her child, he would apply forceps with the expectation of effecting delivery in a more satisfactory manner. He did not approve of the manner of Deventer, but did most cordially endorse the use of forceps to the after-coming head.

DR. FRY, in closing the discussion said, the little experience he had had in using the forceps in head-last cases bore out the testimony of Dr. Smith. So far as the application of the instrument was concerned, it was little if any more difficult than in head-first cases. But instrumental aid is only employed after having failed to deliver the head by the usual methods. The important question is, What is the safest and quickest mode of effecting delivery manually? Now Deventer's method offers several advantages. Dr. Busey has mentioned the protection of the vessels of the infant's neck and of the umbilical cord. Another is the "fender" effect of the extended arms, that is, the arms by bridging over the constriction formed by the neck prevent the cervix from contracting and holding the head. This is sometimes a cause of fatal delay in head-last births. Still another advantage is the gain in time over the common method of bringing down the arms. This is sometimes a very difficult maneuver and the child may die before it can be accomplished.

I fear from the objections Dr. Smith made to leaving the arms extended that he has not carefully studied the mechanism of Deventer's method. His objection would hold good if the purpose were to deliver by flexion of the head; the arms would then oppose the movement. In delivery by extension, however, they are not in the way; by the shoulder attachment they act as levers, so that when the body is drawn in the proper direction the head tends to glide forwards between the arms and the occiput to slip out under the symphysis. Dr. Smith objects to *dragging* out the after-coming head. The force applied in this method is not for the purpose of pulling the head out in the axis of the outlet; it is simply to inaugurate the movement of extension. By draw-

ing the child's body backwards and downwards we depress the occiput and raise the chin—this supplemented by strong uterine and voluntary efforts delivers the head by extension.

I would state that anæsthetics were not used in this case and that my attempt to deliver the child was freely seconded by the voluntary efforts of the patient. I have said my confidence in the superiority of this maneuver over the ordinary methods of manual delivery of the after-coming head was not lost in consequence of this failure. I shall try it when occasion offers and will place the patient in the dorsal position, instead of the lateral, although, as shown, the latter is not opposed to the success of the undertaking.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, November 1, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D.,
IN THE CHAIR.

DR. MONTGOMERY reported a case of

VAGINAL HYSTERECTOMY,

with the following history: Mrs. M., a patient of Dr. T. O. Noch, 40 years old, the mother of five children and the victim of a large number of miscarriages, has been suffering for the last six years with frequent hæmorrhages, which for the past few months became almost continuous. He saw her in consultation with her doctor some months since, and upon examination found an excoriation on the posterior lip extending into the uterine canal. It was advised that the surface be touched with chromic acid and subsequently treated with soothing applications; if there was not rapid improvement following this course, a section should be removed for microscopical examination. Failure to arrest the disease and the demonstration of the presence of epithelioma by the examination of a competent microscopist, led to the decision to proceed to the extirpation of the organ. October 4, at the request of Dr. Noch, and assisted by him and Drs. West, Rively and McCroskey, he had performed the operation. The patient, anesthetized, was placed in the lithotomy position, the vagina separated by retraction and the cervix transfixed by a ligature. The vaginal mucous membrane was cut through, encircling the cervix, the sub-mucous tissue separated to the peritoneum in front and back, the broad ligament cut laterally sufficiently to make sure to free the ureters from injury in securing the ligaments. The opening was now made into the peritoneal pouch posteriorly and a large sponge inserted, two fingers inserted pushed the fundus forward and the opening anterior was completed. A pair of strong forceps, so constructed as to make equal pressure in their

whole length, were applied upon either side of the uterus, and the organ removed. Some vessels not included in the compression forceps continued to bleed so that a number of small forceps were applied. In all some eight forceps were applied and left hanging from the vagina. The sponge was withdrawn from the pelvis and the vagina lightly packed with iodoform gauze. The small forceps were removed at the end of thirty hours, and the large ones in sixty. The convalescence of the patient was uninterrupted and without event. The highest temperature reached was 100° , on the third day.

DR. MONTGOMERY also presented a case of

SUPRA-VAGINAL HYSTERECTOMY.

The woman, æt. 29 years, married, never pregnant, has been suffering for several years from severe menorrhagia. One year ago he saw her with Dr. Strittmatter, and upon examination found a large fibroid uterus. She presented evidences in her blanched face of having suffered from severe hæmorrhage. The removal of the uterus, supra-vaginal, was advised. She was advised by her friends to consult other parties, who informed her that such an operation would be certainly fatal and advised the removal of the ovaries. The hæmorrhage still continuing, she went to Dr. Strittmatter's private hospital, and at his request Dr. Montgomery performed the operation, in which he was assisted by Drs. Strittmatter, Moylan, and Messrs. Starkey and Sangree, medical students. An incision was made about six inches long, and the tumor with difficulty lifted up. The ovaries were enlarged, cystic, adherent and behind the uterus. The removal of the uterus was more readily accomplished than would have been the removal of the ovaries. With the purpose of returning the pedicle, the neck of the uterus was surrounded with a rubber ligature and the tumor removed, leaving two large flaps; these were sewed together by a number of continuous sutures of catgut until the flaps were completely coapted. Upon the removal of the ligature, however, there was so much bleeding that it was thought better to use the Tait clamp. The peritoneum was sewn fast to the stump of the uterus below the clamp. One ovary had been removed and the other, owing to extensive adhesions, was permitted to remain. The wound was closed with silk-worm gut, dusted with iodoform and covered with iodoform gauze and absorbent cotton. She stood the operation fairly well and suffered but little from shock. The following day the temperature was over 104° . Believing it to be due to the dressing, Dr. S. applied a carbolyzed gauze dressing, and the next day the temperature was 99° . Her subsequent convalescence was all that could be wished for, and the wound has now healed, with the exception of the lower angle, where the stump was fastened.

DR. MONTGOMERY read the history of a case of

TUBAL PREGNANCY

for Dr. Noch.

Mrs. —, 28 years old, married, has had four children, labors normal. Had menstruated regularly until August 17 last, with no evidence of it since that time. She thought herself pregnant and felt nothing unusual. She arose one morning from her bed and fell to the floor. She went back to bed and, not improving any, Dr. N. was sent for. He found her with a very pallid, pinched and waxen-like condition of the face; body and extremities cold and perspiring. Respiration was very rapid and shallow and the breasts cold; heart-beats regular but very weak; pulse small and compressible, and very rapid; temperature under 94° . There was marked stupor, but she could be roused, with difficulty, to answer questions. The uterus was somewhat enlarged, cervix slightly softened, and there was a gradual oozing from the os of a coffee-colored fluid. She had very little pain, but felt extremely weak. Her whole appearance indicated internal hæmorrhage. The diagnosis of tubal pregnancy with rupture was made. Laparotomy was considered, but deemed useless for fear the etherization would cause heart failure and death on the table in consequence. Diffusible stimulants were freely given and the local application of heat was used, in the hope that reaction might occur and laparotomy be possible. She continued to fail and died at 10:30 P.M., never having recovered from her shock. The post-mortem revealed an abdomen filled with blood clots. A small foetus was found in the left inguinal region, floating in its sac, which was still unruptured. The tube was found to be ruptured midway between the uterus and ovary, leaving the placenta still in the tube. Development had advanced to about the seventh or ninth week.

DR. MONTGOMERY then exhibited a clamp he had devised for clamping the broad ligaments in cases of vaginal hysterectomy. The two blades were each grooved and could be closed with a parallel motion. They were joined at the top by a permanent joint. The surfaces of the blades were long enough to include the whole ligament in one grasp.

DR. WM. GOODELL was sorry he had overlooked the fact that Dr. Montgomery had a case of this kind to present. He should like to have brought a pair of Doleris' forceps which he received through the kindness of Dr. Lusk. It is a clamp analogous to the one shown, but it has the obstetric lock. The blades can be disarticulated, and one of them ends in a short hook by which the broad ligament is caught at its upper edge and brought down. He had not had occasion to perform the operation since he had received the clamp, but he had had two cases, one of which was fatal. The operation with the ligature was a tedious one.

and the use of the clamp must shorten it. He believed that we were indebted to Richelot for the clamp.

DR. J. M. BALDY asked how Dr. Montgomery would apply his clamp. It was much like the one figured in Greig Smith's book, except that it was permanently locked above at the joint, where Smith's could be taken apart, one blade introduced on each side of the ligament, and then the joint made above. He could not see how this one could be easily applied unless the abdominal cavity were opened and it was slipped down from above.

DR. WM. PARISH had seen the description of a clamp with separable blades, the deviser of which he could not recall. One of the blades has a long fenestrum open at the distal end, and the other blade fits into this open space. This gives uniform compression of the broad ligament. With the instrument shown the compression may not be uniform.

DR. MONTGOMERY said that in the majority of cases there was not much infiltration of the ligament. After cutting the ligaments in the manner described, the uterus can generally be readily everted and the fundus of the organ brought to the vulvar orifice, and the clamp applied from the outside. Even in those cases in which the ligament is not readily drawn out, he saw no reason why the instrument should not be pushed into the abdominal cavity and one blade brought down on each side of the ligament. If the instrument was clean it would do no harm to the peritoneal cavity.

DR. BALDY said that the specimen of tubal pregnancy was interesting as demonstrating Tait's theory of the pathology of extra-uterine pregnancy. Tait holds that rupture takes place into the broad ligament, and that the fetus then goes on to develop or a secondary rupture subsequently takes place into the abdominal cavity. This process is most beautifully shown in this specimen. The cavity of the tube and broad ligament form one, and the rupture has taken place into the peritoneal cavity.

DR. H. A. KELLY described some *glass catheters*. Some five years ago he was hard pressed to catheterize a woman suffering from a distended bladder, not having his catheter with him and being at some distance from his office. He took the crooked glass tube out of the baby's feeding-bottle and drew the water with perfect ease. Since that time he had more or less constantly used glass catheters which he had had constructed for the purpose, and he placed far more confidence in the glass than in the metal catheters. The manifest requirements of a good catheter are that it should be easy to introduce, draw the water quickly and be easily cleansed afterwards. The first two requirements are readily answered by any material of which catheters are commonly made. In the last lies the difficulty. It is impossible to be sure

that the inside of the catheter is clean. He has hitherto directed his nurses in his hospital, where the catheter is in constant use, to keep them, when out of use, in boiling water. He is now using glass catheters, constructed like those he exhibited. They are very cheap, safe (never breaking when in use), and cleansed with ease and certainty. In a hospital a number can be kept standing in a jar containing a disinfecting solution. The device of catheterizing with a glass tube is so simple that he was sure many present or elsewhere must have resorted to it long before this. He was also not surprised this summer when he found well made glass catheters for sale at the instrument makers in Berlin. He presented two patterns, which were sold by Gemrig at 25 cts. each.

DR. KELLY also read a paper on the distribution of hairs on the female genitals, to which he gave the title of the *Female Escutcheon*, pointing out the characteristic differences between the male and female types, as well as the development of the *escutcheon* at puberty, its persistence throughout the period of sexual activity, and its disappearance in old age. Dr. Kelly also drew certain conclusions as to the value of the *escutcheon* in cases of retarded development and doubtful sex.

DR. T. M. DRYSDALE remarked that he was positive that after death or before the sex could not be told by the distribution of the pubic hairs. He had seen the two types, that of man and that of woman, run so nearly together that no reliance whatever could be put on this.

DR. WM. GOODELL stated that Caspar, in his "Forensic Medicine," had referred to the different distribution of the pubic hair in the male from that of the female, as a means of diagnosing the sex in decomposed bodies. Dr. G. did not know what rôle the pubic hair played in the economy. It certainly cannot serve as a pad, because in Mohammedan nations the genitalia of both sexes are scrupulously depilated.

DR. SHOEMAKER said a reference to this subject may be found in the "American System of Gynecology." Dr. Kelly does not "regard this as an absolute rule." He has seen the hair extend to the umbilicus in the female as in the male, but has frequently noticed some of the points to which he has called attention. He is correct in regard to the general type.

DR. STEWART said the rule among the Indians is to have the hair extracted and not shaved. Four years ago, while traveling in the West, he was shown some photographs of nude Indian women and had inquired why there was no exhibition of pubic hairs, and was told that they always had them extracted. He thought the use of the hair was for the protection of the vulva, just as the eyebrows and lashes were for the protection of the eye from perspiration, etc.

DR. KELLY was glad that the discussion had brought out several interesting points in natural

history and in anthropology. In the Eastern countries, where it is a disgrace for a woman to have hair on her genitals, they have a saying of reproach, "thou son of a woman with hair on her parts." The male type is very different from the female type. It is rare to find in the female more than a few scattering hairs run up to the umbilicus. He called attention to the subject as a complete picture. Dr. Cox, in the last number of the *American System of Gynecology*, says that in examining 600 or 700 women in Vienna, he found only six or seven in which the hair tended to go towards the umbilicus, which were rather of the male type. This is an interesting and important fact.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

N. Y. Academy of Medicine—Acute Traumatic Tetanus—Cerebral Syphilis—New Hospitals—Extra-uterine Fœtus Delivered through the Rectum.

At the December meeting of the Section on Practice of the Academy of Medicine Dr. J. C. Minor presented a valuable contribution on the treatment of acute traumatic tetanus. It was highly philosophical in spirit, and it seems reasonable to suppose that if the principles on which it was based could be carried out generally the present frightful mortality from this disease would be materially lessened.

He assumed at the outset that the disease was the manifestation of a poison due to the tetanus germ and produced by the formation of ptomaines as a sequence of its germ origin. The discoveries of Nicolaier, in 1884, and the subsequent investigations of Carle, Rosenbach, Shakespeare, Brieger, and others, had demonstrated, he said, that tetanus is a blood disease, infectious, inoculable, and having its origin in a bacillus, and that from germ cultures at least three poisonous alkaloids could be separated, viz.: *tetanine*, *tetanotoxine* and *spasмотoxine*. We had, therefore, to deal with a toxic condition. As to the prevention of the disease, the fact that a high temperature destroys the tetanus germ pointed to a possible local prophylaxis in the primary dressing of wounds.

As had been well said, he continued, the healthy working of a nervous centre required two qualities which were equally necessary, viz.: a power to act when called into play, and a power of remaining at rest. In tetanus the latter was lost, inaction becoming impossible because excitation was constant. Even when the tonic contractions diminished in force nervous energy accumulated during the remission, to be discharged later on as a paroxysm of increased tension or spasm. The

disease had a duration, in average cases, of three or four weeks. There seemed to be a definite limit to the production of toxic material, and the disease, having run its course, terminated in recovery under certain conditions. That these conditions were not often fulfilled, however, was shown by the mortality, which, according to Gowers, was nearly 90 per cent., a rate which afforded sufficient warrant for better and more systematic methods of treatment. The fact that the disease was self-limited should encourage the hope of success, provided the patient could be protected against its force for a definite period, and the mortality lists showed that this period consisted of the first and second weeks of the disease, the acute stage of tetanus. Recovery, therefore, depended mainly on the treatment during this time.

He admitted that we could neither eliminate or destroy the poison of tetanus, and that the disease once started was beyond the reach of direct methods of antagonism. But when, he said, we consider the limitation of the disease and the fact that its activity was expended upon the cord and medulla, we are led to the inference that if we could so act upon the central nerves that the force of the disease would be spent upon a benumbed tissue, if we could so modify the functions of the cord as to materially diminish its reflex excitability until the nerve storm had passed, we could accomplish the most essential end of treatment. The problem before us was, therefore, how to put the cord "in splints" physiologically, to do this in the shortest possible time, and to maintain this condition of modified function at least two weeks.

He did not believe it possible, except by profound anæsthesia, to obtain complete relaxation of all the muscles in the first period of an acute attack of tetanus without incurring as much danger from the remedies employed as from the disease itself. The object of treatment was not to abolish the manifestations of the disease, but to control them to such a degree as to maintain a relatively safe condition long enough for the disease to expend itself. The effect of the disease upon the muscular system was the main point of clinical significance. Beginning with mere stiffness of the jaws and neck, the muscular tension increased and subsequently involved the muscles of the abdomen and chest. At times a sudden increase in the degree of tension occurred as a paroxysm or convulsive spasm, affecting the whole muscular system, producing episthotonos or other distortions, and threatening death by asphyxia from tonic contraction of the respiratory muscles.

It was to be noted, then, that we had a period of remission and a period of exacerbation, with a certain rhythmic rise and fall of nervous excitability. The condition during the first stage of the disease was one of constantly increasing vio-

lence; the spasms growing more and more severe, and the remissions shorter or less pronounced, until in from one to two weeks the disease culminated in a spasm of extreme violence which usually ended the case. The termination was not always fatal, however, as this might be the critical discharge, from which the patient, if he survived, would pass at once into the declining stage of the disease. Other causes of death might occur in the form of simple exhaustion, cardiac failure, or accidental complications.

It appeared, therefore, that if we could eliminate these convulsive paroxysms from the disease it would cease to yield such an extreme mortality, and the aim of our treatment, consequently, should be to prolong the remissions and modify or absolutely prevent the paroxysms. Now it was a well-known fact, Dr. Minor went on to say, that when the functions of the nervous system are under the control of any agent that modifies them, they are not easily affected by any other agent, and in tetanus we had a toxæmia of which tetanine was the genetic agent. This poison produced a marked influence on the functions of the cord, increasing its reflex excitability; and if we attempted to counteract this effect by agents which depress the functional activity of the cord, we should find that ordinary doses produced little or no result, because the nervous system was already under the control of a powerful modifier of function. Hence toxic doses would be required to produce therapeutic effects. On the other hand, if we once obtained control of the nervous system, and maintained that advantage by using our remedies in doses sufficient for the purpose, neither tetanine nor any other agent would easily regain control of the functions thus modified.

Assuming that all remedies useful in the treatment of tetanus must possess the power of depressing the functional activity of the cord, the choice of remedies, he thought, was not of more importance than the method of using them; so that a poor remedy well used was better than the best of remedies inefficiently given. The main object being to intoxicate the cord, so as to depress its normal excitability, it was evident that quite a wide range of drugs was at our disposal. The ones to which he gave the preference were calabar bean, chloral and the bromides, with an occasional resort to chloroform. Chloroform, calabar bean and chloral are the most efficient in the first period of the disease, while the bromides, and also the salicylates, came into play during the declining stage.

In the first stage he considered that there were three indications to be fulfilled: 1. to lessen muscular rigidity; 2. to prevent convulsive spasms; and 3. to carry the patient through the crisis. The three remedies named were not equally adapted to the purpose in view. Chloroform, for instance, had only a limited use, but within its

range of adaptation its action was unrivalled. It was to be employed in those case of rapid development, occurring soon after an injury, in which the violence and frequent recurrence of the paroxysms threatened an early and fatal termination. Again, it might be necessary in cases of slower development in which the disease, either from neglect or inefficient treatment, had been permitted to get under full headway. Its action was sure and rapid, and, carried to the degree of narcosis, it gave us complete control of the functions of the cord, abolished reflex excitability, and held the disease in check. This point attained, Dr. Minor advised that anaesthesia should be continued long enough to transfer the control of the functions of the cord to some other and safer agent. During anaesthesia, then, we might administer chloral, calabar bean, or any remedy suitable for hypodermic or rectal use, and, after waiting twenty or thirty minutes for absorption to take place, suspend the chloroform.

Of the two agents mentioned he considered calabar bean preferable, because its action is confined to the same field in which the tetanus poison operates, and is the nearest approach to a physiological antidote to tetanine at our command. The variable character of the drug as usually found rendered it very unreliable in practice, however, and as a rule it was better to use the salicylate of eserine than the solid extract of calabar bean. Chloral, while not so good a remedy or so perfect an antagonist to tetanine, was a better drug and practically of greater service. If calabar bean was used, chloral would be needed to supplement its action as the disease approached its climax; while if chloral was employed the bromides would serve in the same relation. In regard to dosage, he thought we should start with the maximum quantity, and be governed as to its subsequent increase by the effect observed upon the muscles. There was, in fact, no such thing as a perfectly safe method of treating the disease successfully. Verneuil advised doses of not less than 5j of chloral. He considered it necessary to keep the patient in a kind of continuous coma for at least fifteen days, and then gradually reduce the amount of chloral daily. Twice, however, Dr. Minor said he had succeeded in carrying cases to recovery with much smaller doses than this, and he did not think that a semi-coma was the best condition for the patient to be in. Smaller doses, he believed, were equally effective if combined with or supplemented by other remedies; and if about the end of the first week the bromides were given in addition, we should increase the action of the remedy without augmenting its danger.

The use of calabar bean required far more care and attention to detail, and he recommended that the initial dose should not be less than half a pound of the solid extract. In its administration the object was to regulate the doses in such a way

as to anticipate the condition of muscular tension, and thus prevent the recurrence of spasms. Under its use the periodicity naturally incident to the disease became more marked, because the remedy contributed to a marked remission. Two grains might be sufficient to secure this relief for two hours at a time during the first week of the disease; but 3 or 4 grains were usually required before the end of the second week, and the increasing violence of the disease would bring these doses closer together. As the crisis approached, the patient was in great danger from both the disease and the remedy, as both were cumulative in their toxic action; and at this stage both these dangers would be materially lessened by bringing chloral into use and rapidly diminishing the amount of calabar bean.

During the period of increase of the disease, no matter what remedy was employed, he believed it was necessary to increase the dose in proportion to the work it had to do, and that as the crisis came on we had to choose between the danger of an excessive dose of our remedy and an excessive dose of tetanine. The first was to be preferred, however, because if toxic symptoms appeared we might antidote them, with the probability that the disease had spent its force at this point. To pass the crisis successfully signified recovery.

Having referred to the toxic symptoms of calabar bean, and their treatment by atropia and morphia, Dr. Minor said in conclusion that to use our remedies timidly was to permit the disease to kill the patient; to use them recklessly was to perform that office ourselves. The responsibilities assumed by the physician in the treatment of traumatic tetanus were precisely the same as those belonging to the surgeon who undertook a difficult and dangerous capital operation. As to the general management of these cases, rest and nourishment were so important in their relation to the successful issue of treatment that, no matter how careful and thorough the therapeutic methods might be, they would certainly fail unless the strength of the patient was properly supported and his nervous system protected against undue excitement.

On the same evening Dr. E. D. Fisher read a paper on "Cerebral Syphilis," which was mainly devoted to the pathological condition of the blood-vessels and the clinical manifestations arising therefrom. In the course of it he exhibited a drawing of Rumpf's representing syphilitic arteritis, in which the narrowing of the lumen was very clearly delineated, and which corresponded very closely to a microscopical section of the basilar artery in a case of Dr. Fisher's.

Two new hospitals have recently been opened here with public exercises. The first, St. Joseph's, a Roman Catholic institution for incurables, is located in the upper part of the city on the East Side, and the second, the Montefiore Home for Chronic

Invalids, erected by the Hebrews in memory of Sir Moses Montefiore, is up town on the West Side. At the dedication of the latter, which is a very large and handsome building beautifully situated near the Hudson River, the principal address was made by the Hon. Carl Schurz, and instrumental and vocal music was furnished by the inmates of the neighboring Hebrew Orphan Asylum.

A fine new hospital, the Arnot-Ogden memorial, has also been inaugurated at Elmira. On this occasion a letter was read from Mrs. Arnot-Ogden, who erected the building, formally transferring the institution to the board of trustees; and Dr. Wm. C. Wey accepted the trust on behalf of the board. The cost to Mrs. Ogden was \$75,000, and in addition the hospital has been endowed to the extent of \$50,000 by other members of the Arnot family. The consulting physicians will be Drs. Wm. C. Wey, T. L. Squire and C. W. M. Brown, and the attending physicians Drs. Henry Flood, H. De V. Pratt, Jr., C. L. Squire, and H. D. Wey.

The Board of Estimate and Apportionment have decided to increase the appropriation from the city for the maintenance and development of the farm for the insane on Long Island which was started in 1887, and has thus far proved a very successful experiment. It is designed to receive the overflow from the crowded asylums on Ward's and Blackwell's Islands, and the property embraces a thousand acres of land, which will all eventually be under cultivation by the patients. At present there are accommodations in the model buildings which have been erected for 300, who are divided up into separate groups or colonies of 100, and more colonies will be added from time to time as circumstances admit.

At the last meeting of the Section on Obstetrics and Gynecology of the Academy of Medicine, Dr. James P. Tuttle read the report of an apparently unique case; it being one of extra-uterine pregnancy in which the foetus was delivered intact per rectum. It was of four months, and was exhibited to the Section. The mother died of hæmorrhage and exhaustion.

P. B. P.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith.

A Case of Abnormal Sexual Development in a Male.

An article on "Teratology" in THE JOURNAL of October 20, by Dr. Joseph Jones, of Louisiana, describes the case of John H. Allen, whose sexual organs were so abnormally developed as to make it uncertain whether testicles were present at all. Some of the peculiarities there mentioned are present in the following case, and taken together the two are interesting.

The case is that of a Scandinavian, who, in the

early part of 1887, attempted to enlist in the U. S. Navy as a seaman. When he undressed for the physical examination, which the writer conducted, the following facts were noted: He was apparently 24 years old, 5 feet 8 inches in height, weighed about 160 pounds, with a chest measurement of about 37 inches, and was of blonde type and in apparent perfect health. Though he possessed considerable strength, his limbs were not muscular in appearance but were excessively feminine in shape, and his hips were broader than his chest. His skin was fair and devoid of hair, except a small amount on the pubis, and there was no appearance whatever of beard. His hands were large and coarse from his occupation, that of a sailor, which he had then followed for several years. The accumulation of fat on the chest, gave the appearance of virgin mammaræ, though the nipples were very small and surrounded by a very small dark areola. The voice was pleasant and though not what might be termed feminine, it was not what a man of his vigor would naturally possess. He seemed retiring in disposition though not bashful, and seemed possessed of but little energy. The penis was well-formed, about 1½ inches long, and ¾ inch in diameter, and the testicles were not quite as large as average almonds. The size of the erected penis is not known, but he said he had had sexual relations with women a few times in his life. Viewed from the rear one would have supposed him to be a female so perfectly feminine was his entire figure.

Whenever there is an arrest of development of the sexual organs, the person always seems to have characteristics of the opposite sex, in other parts of the body, in direct ratio to the amount of impairment of the sexual apparatus. This case in which the impairment is not nearly so marked as in the one before mentioned, shows this fact, and it may be possible to find cases forming a continuous series from such as this case with but little impairment, to those rare cases in which the characteristics of each sex are equally prominent and the sexual organs so abnormally developed as to completely hide the sex, or even to true hermaphroditism. The abnormality is not merely an arrest of the development of the sexual organs, for the above cases have many female characteristics. It must start in the embryo when the differentiation of sex begins; the great majority take the course either to become perfect males or females, but a certain number take some intermediate course developing into one sex but obtaining more or less of the characteristics of the opposite sex, and a few take the middle course, becoming true hermaphrodites with the characteristics of each sex decidedly marked. Cases have been recorded of females who have thus developed many of the male qualities, and it would be interesting to know whether the number is not really larger and whether those masculine women who

seem so prone to seek work in positions which men should occupy, and so repugnant to remaining at the fireside, do not really belong to this class who have not attained perfect female development, but owe their peculiarities to the false start taken by the embryo at the eighth week of intra-uterine life.

CHAS. E. WOODRUFF,
Asst-Surg. U. S. A.

Fort Mackinac, Mich., Dec. 26, 1888.

The Medical College of Virginia.

[The recent Editor of THE JOURNAL has not now, and never has had the slightest disposition to do injustice to the Medical College of Virginia. All that he has permitted to be said editorially has been founded on the published statistics of the State Board of Examiners and the published statements of what took place before the Legislature or its Committees. Whether 8 rejections out of 57 is 12¼ or 14 per cent., or whether 8 rejections out of 57 is a better showing than 1 rejection out of 33, any of our readers can figure for themselves. Hence we cheerfully close the subject by giving the following letter from the Faculty,
N. S. D.]

Mr. Editor:—In the number of THE JOURNAL for December 15, 1888, in the editorial on the "Medical College of Virginia," is a statement referring to Dr. Geo. Ben. Johnston and myself, namely, that "the action of the students was substantially, though unofficially, endorsed by the members of the Faculty (except Drs. John Upshur and Geo. Ben. Johnston)." The night preceding the meeting of the Legislative Committee, at a formal meeting of the Faculty, the Dean was instructed to appear before this Committee and *re-affirm* the position the Faculty had *always* taken in favor of an Examining Board and *in favor* of the *examination* of the *graduates* of the Medical College of Virginia.

Dr. Cullen was forestalled by a member of the Faculty, earlier in attendance and openly in sympathy with the students, and who, in the face of the action of his colleagues the previous night, and unauthorized by them, by the position he assumed before the Committee, placed the College in an equivocal position. Dr. Cullen, before having an opportunity to carry out the instructions of the Faculty, was called away, and though I was not present, I am informed by Dr. Cullen that the statement made by Dr. Johnston to the Committee, enunciating the position your editorial says we occupied, was made at his request, and defined the position not only of Dr. Johnston and myself, but of the Faculty. The minutes of the Faculty sustain the consistency of the Faculty on this question. Dr. Cullen's letter emphatically states, that when applied to by the students for aid, it was positively refused.

The point made in the percentage of failures

before the Board, was not so much a matter of figures, as that the showing for the graduates of the Medical College of Virginia was far better than for any other school. The accurate percentage of rejections was 12 $\frac{1}{4}$ —and the proportion for the other schools 25 to 33 per cent. The table published failed to state that *last spring the Board licensed three young men as competent to practice medicine, who had been rejected by the Faculty of the College.* We are not afraid to point to the ranks of the Army, Navy, and Marine Medical Service, for numbers of our Alumni, who have given satisfactory proof to the unprejudiced, that the *work done by the Medical College of Virginia is not bad.*

If Dr. Cullen misunderstood the charges made by THE JOURNAL, I assert that I have read them carefully and do understand them, and I emphatically deny every statement, except so far as the students are referred to, supported and endorsed by *one* member of the Faculty in his individual capacity, and I challenge the proofs that will convince an unprejudiced profession. You have been misinformed Mr. Editor, we only desire that you should do us justice, and certainly the organ of the American Medical Association has a higher mission, than upon such flimsy evidence, to pursue a medical school, with a stainless record of half a century, in the spirit manifested by the recent articles which have appeared in its columns.

The weal of the profession and the admission to its ranks of men thoroughly prepared, is as earnestly desired by the Faculty of the Medical College of Virginia as any other men in the profession, and we stand ready to-day to sustain the Board in the prerequisite of a *diploma, English examination,* and lengthened term of study. Respectfully, J. N. UPSHUR, M.D., Prof. Mat. Medica, etc., and Secretary of the Faculty, Medical College of Virginia.

206 E. Grace St., Richmond, Va., Dec. 21, 1888.

Infanticide.

Dear Sir:—The members of the medical profession must have felt embarrassed and humiliated at the exposure of abortionists by the *Chicago Times.* We heartily endorse the remarks of the Editor of THE JOURNAL on that subject. The profession cannot be consistent with the sentiments of this editorial and permit one of these men, or any known infanticidist, to remain within any medical society recognized by the American Medical Association. Nor should any member of the profession recognize or consult with one of them.

Permit your correspondent to say that our periodical literature has said but little, much too little, on this subject, to impress their readers with the enormity of this crime. We regret to express

any opinion that will do injustice to any journal, but the truth of our convictions is, that some articles have been published by contributors to medical journals, that have come to my reading, that were not up to the standard of the opinion expressed by the Editor of THE JOURNAL. Correspondence has been published giving "The Best Mode of Producing Abortion," and one that I can recall in which the profession at large was asked to give a safe plan for this process. The public mind does not comprehend the great danger there is in producing this wrong act, nor is popular sentiment far enough advanced to comprehend the fact that it is murder to produce it. Every physician of much experience has been consulted on the propriety and even the necessity of doing this thing. Both fathers and mothers have been known to go to their physician with an argument to sustain their position, like the following: "Doctor, my wife is too weak to bear a family;" and another confronts you with the plea that he is poor and not able to raise a large family, that he has enough and as many children as he can raise, that it would be better and nearer right to prevent the offspring from coming into the world alive than to let it be born to suffer and cause others to suffer.

This error and the long list of wrong opinions on this subject, can only be corrected by medical gentlemen, in their professional intercourse with their patrons. Educate the people to know the wrong and the crime, as well as the danger attending abortion, and but few applications will be made to the abortionist, and there will be no demand for his wicked service.

J. W. HERVEY, M.D.

Indianapolis, Jan. 3, 1889.

Medical Jurisprudence.

Dear Sir:—The following case will probably interest your readers: One who holds himself out as a healer of diseases must, no matter what particular school or system he practices, be held to the duty of reasonable skill in the light of the present state of medical science. So held in a case of alleged clairvoyance. *Nelson vs. Harrington, S. Ct. of Wisconsin, Nov. 8, 1888; 40 Northwestern Reporter, p. 228.*

Respectfully, M. D. EWELL.

Union College of Law, law department of the Northwestern University, Chicago, Jan. 3, 1889.

PERSONAL.—Dr. E. A. Neeley, of Memphis, has retired from the editorial staff of that sterling journal, the *Memphis Medical Monthly.*

THE CODE OF ETHICS.—At the recent meeting of the Tri-State Medical Association, our Code was sustained by a unanimous vote.

BOOK NOTICES.

THE WATERS OF PLOMBIÈRES (Vosges). By DR. BOTTENTUIT, Médecin aux Eau de Plombières, Member de la Société Clinique de Paris, Chevalier de la légion d'honneur. London: J. & A. Churchill.

This work is divided in three parts, the most important is certainly that in which the description of the sources of Plombières, their analysis and their temperature is given. The description of the physical and chemical properties of the waters, some of which are very hot, and some belong to the class of the indifferent waters, such as Burton, Wildbad or Ieplitz.

A chapter is devoted to the study of the baths. Their action depends on their duration, their temperature, and on the douches, which may be applied in different manners, and produce various effects according to their mode of application, on the étuves and massages. Their use will be found very successful in many cases; their action requires careful watching.

The chapter of the indications and contraindications of the waters of Plombières is most important to read. M. Bottentuit recapitulates in a few pages the notions which enable the physician to judge in which cases the waters of Plombières may be valuable to the patients. He insists upon the sedative and calming action of the waters of Plombières, and on the benefit derived from their use, in the cases of nervous erethisma and in affections where painful form prevails. The waters can be used, however, not merely so as to obtain a sedative action, but so as to ensure at the same time a derivative, a tonic or a stimulating one. It is the carefully combined use of these different methods which produces the most satisfactory results.

M. Bottentuit indicates the action of the waters of Plombières in the diseases of the intestinal tube (flatulent dyspepsia, stomachal vertigo, gastralgia, diseases of the intestines, chronic diarrhoea) in the troubles of the womb (metritis, amenorrhœa, dysmenorrhœa, sterility). At last, in gout and rheumatism, we may say, that since the construction of the "Nouveaux Thermes" Plombières possesses an establishment fitted with the best appliances, to be found anywhere.

Patients who cannot bear the douches or the étuves at other stations can, thanks to a judicious use of the baths, support them, and will reap great advantage from them. In such cases the douches and baths are given simultaneously, and thus the sedative effect of the bath diminishes the exciting action of the douche, without destroying its stimulating qualities.

Rheumatism, as is well-known, often attacks

the viscera. Its commonest manifestations are those of gastralgia and enteralgia; often it assumes other forms, less frequent perhaps, but more difficult to trace.

In all such cases, the waters of Plombières have a happy effect, but more than that, they combat, not only the effects of the rheumatic diathesis, but the diathesis itself, which is the origin of all these troubles. The reader will be deeply interested by the account of the origin of this little town, by the changes and catastrophes undergone by Plombières, from the time the Romans settled there, to the annexion of Lorraine to France, and by the numerous works carried out during these last twenty years.

Dr. Bottentuit, in his handy little guide, gives ample information about the town of Plombières and the adjacent country, to which many pleasant excursions may be made. There is a Casino, and there is a fair amount of amusement and recreation to be had. The book is illustrated by many views of Plombières itself and of its vicinity. The Vosges country is well worth exploring as an after-cure to the course at Plombières.

P. B.

WASHINGTON'S RULES OF CIVILITY AND DECENT BEHAVIOR IN COMPANY AND CONVERSATION. A paper found among the early writings of George Washington. Copied from the original with literal exactness, and edited with notes by J. M. TONER, M.D. Washington, D. C.: W. H. Morrison. Price, 50 cents.

Among the entertaining *brochures* of the year just closed, is Dr. Toner's edition of "Washington's Rules of Civility." Dr. Toner says: "The unceasing desire of the public to learn more and more of the life and character of General Washington, induces me to publish entire, and for the first time, with literal exactness, his 'Rules of Civility and Decent Behavior in Company and Conversation.'"

They were written by him at about the age of thirteen, and with the exception of some school exercises, are the earliest of his productions, in the order of time, which have been preserved. It is proper, too, that their publication should precede that of his Diaries and Journals, taken by Dr. Toner from the original MS. and arranged in chronological order with notes, which are now nearly ready for the press.

The first of the series Washington himself entitles "A Journal of my Journey Over the Mountains, begun 11th March, 1747-8. It will be seen from this date that he was but sixteen years and one month old."

Dr. Toner's patient researches into the musty records of the past are always productive of pleasure to those who read an account of them, and in this little volume he has given a glimpse of the

Father of his Country from a new and different standpoint.

The notes by Dr. Toner have a historical value apart from their general interest.

MISCELLANY.

ANTI-RABIC INOCULATION.—In recent numbers of the *Journal d'Hygiène*, October 18 and 25, 1888, Dr. Prosper de Pietra Santa discusses the present state of the question of anti-rabic inoculation. He tells us in a letter to Dr. La Torre that he has gone through the literature of the subject since 1879, and with impartiality, but he has been forced by the evidence to make part of the crowd of *obscure blasphemers*, and he has consoled himself with the thought, "*Amicus Plato, amicus Socrates, major amica veritas.*" From the arguments drawn from patriotism on the one hand, and the glorification of French science on the other, he believed with Pasteur that *la patrie de la science embrasse l'humanité tout entière*. In giving the views of von Frish, Jules Guérin, and Peter, he did not insist on them so much as on those of H. Bouley, B. W. Richardson, and Bouchard, who, whilst professing a great regard for the illustrious chemist, yet have been compelled by the facts to give the experiments their true interpretation. Dr. Richardson (London) wrote: "*The empirical method of Pasteur, with only a trace of genius, is wanting in scientific control.*" Bouchard, at the Congress at Nancy, spoke with good sense, logic and wisdom, on the method. "We cannot conceal that there still exist doubts on the mode of action of the vaccine of rabies. This inoculation does not present any analogy with other virus-vaccines, as for chicken- and small-pox. In these we have to deal with microbes known, cultivated, and rendered vaccines by laboratory manipulations. They have the same vital quality even in the least quantity. They produce a malady which confers immunity from the first. With the method of Pasteur there is nothing similar—*no attenuation of virus, no known microbe, no malady.* We are, in fact, *in empiricism.*" The opinions of Bouley are quoted, favorable to many parts of Pasteur's work, but Bouley proposed a number of tests, which have not been carried out, so far as Dr. De Santa can learn, or if so, they have not escaped the doors of the Pasteur laboratory. These questions should be answered, as they were so framed as to throw light on many important points in the controversy. They have been shelved on such pleas as want of leisure. Colin of Alfort's proposals appear to have met with the same fate, though the means of the Institute have been ample for their solution. Dr. De Santa passes from opinions to figures. He tells us that the mean mortality from rabies has been questioned. It is not known accurately. Brouardel adopted the figure of thirty per annum, a figure previously adopted by Tardieu. But when the Institute of Pasteur revealed *hundreds* of cases per annum, the figure *thirty* was necessarily said to be too low. Brouardel subsequently said: "They only knew of less than half the deaths." One factor in the problem being wanting, it was illogical to state that the deaths in France had diminished. They had returns for 1887 of the Department of the Seine, collected by Dujardin-Beaumetz, of 350 bitten persons; 306 followed the treatment, with two deaths; forty-four did not follow it, with seven deaths. At first sight these figures were convincing, but in the 306 no account is taken of the treatment received before application at the laboratory, or of the proportion who escape injury, fixed by M. Leblanc at one in six, by the London Commissioners at one in five. In place of M. Grancher (March, 1886) saying, "Out of 350 persons we have had 350 successes," it would have been more just to delete from that propor-

tion (one in six) who would have escaped without the anti-rabic treatment. The figures worked by Dr. De Santa stand as follows: For the mortality of seven in forty-four the formula is:

$$7 : 44 :: 1 : x = \frac{44 \times 1}{7} = 6.28.$$

This gives a mortality of 6.28. Taking some of Pasteur's large statistics, he reduces them to another formula. In July, 1887, M. Pasteur had treated 3,339 persons—2,728 bitten by rabid (?) animals, 611 by suspected animals. Out of this number there had been thirty-eight deaths, in the proportion of 1.13 per 100, taking all the deaths. Deducting the proportion of one in six, who would have escaped in all probability, we have the formula:

$$100 : 1.13 :: \frac{100}{5} : x = 20.60.$$

The figure 20.60 per cent. really represents the mortality.

These statistics, which Dr. De Santa gives, show how figures may be manipulated. He continues his letter by referring to the opinions of Vulpian and Charcot. Vulpian said at the Academy: "Rabies, that terrible malady, has at last found its remedy." Charcot said: "M. Pasteur can walk with head on high, and still pursue the accomplishment of his glorious task, without being turned aside a single instant by the clamors of contradiction or the insidious murmurs of ———." Dr. De Santa gave the reverse of the medal in the criticisms of MM. J. Guérin, Fauvel, and Peter. M. Peter stated that since the discovery of the remedy there have been more cases of rabies, that Pasteur was not the successor of Jenner, and that the method was to be condemned: 1. On scientific grounds, as it was a strange abuse of language to give the name of vaccination to such inoculations. 2. That the system was *empirical*, accentuated by contradictions—contradictions shown by the fact that a microbe was assumed which did not exist, an empiricism, by the cultivation not of the microbe but of rabid spinal cords, and in making them pass from one living organism into another living organism—an empiricism still, when he passed in his inoculations from the organism of the rabbit to that of the dog—*empiricism* more audacious still when he passed from his experiments on the organism of the dog, before a bite, to experiments on the organism of man after a bite, from an enraged animal.

M. Pasteur cannot complain of criticism when he himself had the audacity to say of M. Peter, one of the first clinicians in France, that he was a person clinically and experimentally incompetent to judge. This impatience of criticism is very remarkable in M. Pasteur's career. All who accept M. Pasteur's views are, of course, wholly competent, even though they have the most profound ignorance of the literature of rabies. Dr. de Santa finishes his report by alluding to the report of the English commission, which did not support the formation of a rabie institution in England, but demanded the application of rigorous police measures.

M. de Santa calls to mind M. Pasteur's felicitation of the action of the Prefect of Police of Paris in his crusade against wandering dogs. He says on this point: "It is singular to see the destruction *per fas et nefas* of the canine race praised by the *savant* who has discovered the means for curing rabies." M. de Santa points out another disappointment resulting from a reply of M. Pasteur to furnish the indications, etc., on the first symptoms of rabies in dogs and cats. M. Pasteur replied: "It was not possible to define, in an absolute manner, the characteristic symptoms of rabies, as even experts (veterinarians) might sometimes make an erroneous diagnosis." The reply is a dangerous one, because it can be applied to the diagnosis of the condition of the dogs which furnished M. Pasteur himself so many patients. M. Pasteur has, in his time, not been unsparing in his criticisms of theories with which he could not agree, and he should be the last to appeal *ad misericordiam*. He is amply rewarded by

the manner in which the Institute has been supported by the Emperor of Russia, the Sultan, and the Republic of France. The brilliant ceremony which took place at the opening of the new Institute in the Rue Dutan should compensate him for any criticism he has been subjected to. The ceremony was undoubtedly an imposing one, even though wanting in the support of the *savants* of Germany, Austria, Italy, Belgium, etc. The objects of the Institute, the study of virulent maladies are admirable. We cannot overlook the too great prominence given to rabie inoculation, so much so that Dr. Henri Huchard, the famous French therapist, has called the new building the "Palace of Rabies."

The address of M. Grancher at the opening of the Palace of Rabies contains a repetition of the fallacy that the mortality is 1½ per cent., which assumes that all who are bitten are in danger of contracting hydrophobia. The mortality in France remains unaffected. The mean annual of thirty deaths, established by statistics from 1850 to 1885, is still kept up. The following table, taken from the *Journal de Médecine de Paris*, November 20, gives the number of deaths after the Pasteur treatment during the year 1888:

NOMS.	Animal et date de la morsure.	Date du traitement.	Date de la mort.
1 N. enfant de 4 ans.	Chien 6 déc. '87	12 décembre '87	22 janv. 1888
2 Sidi ben Israel.	—	—	Janvier 1888.
3 N. femme de 52 ans.	—	23 janv.	29 janvier.
4 Marinot.	—	15 févr.	15 février.
5 S. âgé de 51 ans.	—	9 nov.	11 novem. 1887.
6 Cotte, 28 ans.	—	6 mars	16 mars 1888.
7 N. enfant de 6 ans.	—	avril.	5 avril.
8 Avray, 11 ans.	—	12 avril.	17 avril.
9 Olin.	—	23 avril.	26 avril.
10 Poulet, 20 ans.	—	6 déc. '87	8 décembre '87.
11 Bertin, 18 mois.	—	15 mai.	17 mai.
12 Villemain, 31 mois.	—	9 mai.	14 mai.
13 Labeauve, 37 ans.	Chat 26 mai.	30 mai.	23 juillet.
14 N. 28 ans.	Chien 10 déc. '87	12 décembre '87	15 juillet '88.
15 Ducos, 28 ans.	Chat 16 juin.	20 juin.	18 juillet.
16 Mesnil, 44 ans.	Chat 25 mars.	26 mars.	20 juillet.
17 Sarazin, 44 ans.	Chien 1 juillet.	4 juillet.	4 août.
18 Gues, 27 ans.	—	13 juillet.	10 juillet.
19 N. cité par Dr. Le- vraud.	—	15 juillet.	10 juillet.
20 Sinardet, 26 ans.	—	26 avr. '86	3 mai 1886.
21 Cousinier.	—	12 sept. 88	12 septemb. '88.

These are the deaths for nine months. If we add to this the mortality of persons who did not seek M. Pasteur's aid, the figure thirty, the mean mortality, would be reached.—*The Provincial Med. Journal*, Dec. 1, 1888.

QUARANTINE CONFERENCE CALLED.—The Legislature of Alabama adopted at its recent session a joint resolution calling a conference on quarantine regulations to meet in Montgomery March 5. The Governor has forwarded letters to the Governors of Georgia, Texas, Louisiana, Mississippi, Florida, South Carolina, North Carolina, Tennessee, Kentucky and Illinois, requesting them to appoint delegates to the conference.

PAMPHLETS RECEIVED.

Marcy, Henry O., M.D., Boston, Mass. *The Climate of the Southern Appalachians*. Reprint from Trans. Ninth Int. Med. Cong. 1888.

Ibid. *The Histology and Surgical Treatment of Uterine Myoma*. Reprint from Trans. Ninth Int. Med. Cong. 1888.

Oliver, Charles A., M.D., of Philadelphia. *The Eye of the Adult Imbecile*. Reprint from Trans. Am. Ophthalmological Society. 1887.

Blane, Henry W., M.D., of New Orleans. *Leprosy in New Orleans*. p. 65. No date.

Theobald, Samuel, M.D. *The Influence which the Discovery of Cocaine has Exerted upon Ophthalmic Surgery*.

Reprint from Trans. Med. and Chirurg. Faculty of Maryland. 1888.

Ibid. *Is Astigmatism a Factor in the Causation of Glaucoma?* Reprint from Am. Journal of Ophthalmology, Oct., 1888.

Freire, Domingos, M.D. *Résumé des recherches sur la Fièvre jaune faites par M. P. Gibier, à la Havane*. Rio-Janeiro. 1888.

LETTERS RECEIVED.

J. M. Toner, M.D., Washington; W. A. Townsend Pub. Co., New York; Edward F. Wells, M.D., Shelbyville, Ind.; Henry T. Byford, M.D., City; J. J. McAchran, M.D., Salt Lake City, Utah; J. H. Smith, M.D., Dallas, Tex.; Commercial Advertiser, New York; Horlick's Food Co., Racine, Wis.; O. J. Fullerton, M.D., Waterloo, Ia.; Carl H. von Ruck, M.D., Asheville, N.C.; J. H. Kellogg, M.D., Battle Creek, Mich.; Trübner & Co., London, Eng.; Clark Cook, M.D., Fowler, Ind.; S. S. Adams, M.D., Washington, D.C.; W. Byford Ryan, M.D., Willow Branch, Ind.; Joseph Eastman, M.D., Indianapolis, Ind.; Drs. Henry A. Martin & Son, Roxbury, Mass.; Wm. B. Atkinson, M.D., Philadelphia, Pa.; E. M. Moore, M.D., Rochester, N. Y.; Leartus Connor, M.D., Detroit, Mich.; L. S. McMurtry, M.D., Danville, Ky.; Samuel N. Nelson, M.D., Boston, Mass.; Le Dr. Bontentuit, Paris, France; Frederick S. Dennis, M.D., New York; John Shrady, M.D., New York; Thos. F. Goode, Buffalo Lithia Springs, Va.; Geo. W. Barr, M.D., Titusville, Pa.; E. Steiger & Co., New York; P. O. Hooper, M.D., Little Rock, Ark.; G. F. Hesler, Toesin, Ind.; Sharp & Dolme, Baltimore, Md.; Upjohn Pill & Granule Co., Kalamazoo, Mich.; R. W. Gardner, New York; Samuel Wright, Columbia, Pa.; W. R. Allison, M.D., Good Hope, Ill.; J. E. W. Smith, M.D., Waycross, Ga.; Richard H. Day, M.D., Baton Rouge, La.; Alonzo Garcelon, M.D., Lewiston, Me.; J. B. Andrews, M.D., Buffalo, N. Y.; P. B. Porter, M.D., New York; W. Rommelaer, M.D., Bruxelles; E. Cutter, M.D., New York; L. G. Roberts, D.D.S., Enreka Springs, Ark.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from December 20, 1888, to January 4, 1889.

By direction of the acting Secretary of War, Capt. Fred. C. Ainsworth, Asst. Surgeon, will proceed to New York City, N. Y., and Brooklyn, N. Y., on business connected with the Medical Department. Par. 20, S. O. 302, A. G. O., Washington, December 29, 1888.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending December 22, 1888.

Supervising Surgeon-General John B. Hamilton, granted leave of absence for sixty days. December 20, 1888.

Surgeon P. H. Baillache, to inspect unserviceable property at New York Marine Hospital. December 17, 1888.

Surgeon Walter Wyman, to proceed to New York, N. Y., and transfer public property. December 18, 1888.

P. A. Surgeon H. R. Carter, granted leave of absence for fifteen days. December 10, 1888.

Asst. Surgeon G. M. Magruder, upon expiration of leave of absence, to proceed to New Orleans, La., for temporary duty. December 21, 1888.

Asst. Surgeon, J. O. Cobb, leave of absence extended ten days. December 14, 1888. To proceed to Evansville, Ind., for temporary duty. December 20, 1888.

Asst. Surgeon J. B. Stoner, when relieved, to proceed to New York, N. Y., for duty. December 13, 1888.

Asst. Surgeon H. D. Geddings, upon expiration of leave of absence, to proceed to New York, N. Y., for temporary duty. December 21, 1888.

CORRIGENDA.

In the New York letter published in the last issue of THE JOURNAL, eighteenth line from bottom of second column, page 31, read evacuation for evacuation.

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No. 3.

ORIGINAL ARTICLES.

RESULTS IN ELEVEN CASES OF A NEW
METHOD FOR ARRESTING BLEED-
ING IN SURGICAL OPERATIONS
AND CONDITIONS. AND FOR
THE TREATMENT OF
ANEURISMS.

Read in the Section on Surgery and Anatomy at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY C. S. MISCROFT, M.D.,
OF CINCINNATI, OHIO.

No complication in operative surgery has occupied the mind of the surgeon with so much interest, responsibility and anxiety, as the prevention and arrest of hemorrhage.

It is unnecessary to recapitulate the different methods adopted by the profession from time to time, as there are none in this Section of the Association who are not familiar with them all.

This importance was never so strongly presented to the mind of the author as on the 10th day of August, 1886, when about to perform, for the first time, an amputation at the hip-joint in a patient 58 years old. The literature of the different methods for preventing hemorrhage in this operation was carefully examined, but none promised the security to the patient that could be wished. It is not astonishing that the dread of the patient dying on the operation table from hemorrhage, (an accident which has so often occurred) haunted me for days and nights previous to its performance.

Having on several occasions arrested hemorrhages from small arteries by means of the introduction of a pin under the artery, and compressing it by the figure-of-eight ligature, in the same manner as those applied for the purpose of treating varicose veins of the extremities. From the satisfactory results obtained, it was decided to apply the same treatment to the femoral artery, for the purpose of shutting off the supply of blood at the time of amputation. It was done as follows: A long needle, no pin large enough being at hand, introduced to the inside of the femoral vein, at the distance of half an inch from the sheaths of the combined vessels and nerve.

The distance from the groin an inch and a half. It was directed perpendicular to the front of the thigh, pushed backward until the sheaths containing the femoral vessels were passed, then turning the point under them toward the external side of the femur, then forcing the point to the front through the integuments and skin. The figure-of-eight ligature fastened the needle firmly in its place. Pulsation of the artery below the needle could be distinctly felt before the ligature was tightened, but after none could be perceived. Of several medical gentlemen present some had confidence in the procedure, others not. Should the plan fail, an able assistant stood ready to seize the vessel if need be. To prevent the patient or assistants from being injured by the needle small corks were applied to the point and heel. After the last cut was made entirely severing the limb, the femoral artery was found perfectly closed, and standing out from the surrounding tissues for a distance of three-fourths of an inch with its mouth wide open. Some two or three small arteries required attention. These were tied with a very small loss of blood. Then the femoral artery was held between the finger and thumb, and a permanent ligature used. The flaps were brought together and stitched, and the patient put to bed. The only dressing applied to the stump was a compress saturated with a solution of dried sulphate of iron 5ss to the pint of water. No drainage tube was used. The patient recovered rapidly and is now quite well.

On August 12, two days after the amputation at the hip-joint, an amputation was made at the shoulder joint. The same form of compression was adopted with equally good results. The patient did not lose a drop of blood from the brachial artery—he also had a good recovery, and is now well. The needle in this case was passed from before backward, parallel to the axilla. In neither of these cases did the introduction of the needle cause the slightest bleeding from the puncture.

In all other operations where this hæmostatic has been applied a pin was used in the place of the needle. It was used to arrest a secondary hemorrhage after an amputation of the leg below the knee. The application was in the precise manner, and in a similar part of the thigh to

the other. It was introduced on Sunday morning and removed the following Thursday, having remained *in situ* four days; its presence causing no inconvenience, nor producing any local soreness or neuralgia of the limb.

The application of the pin and its freedom from any irritating effects suggested its promise of great usefulness in the treatment of aneurisms, more especially in those of the extremities. In the lower extremities there is no doubt any aneurism below Poupart's ligament would be amenable to this management. In the upper extremity any aneurism could be treated by this process, including the axillary space, and even the axillary artery itself below the clavicle. Aneurism of the sub-clavian arteries would also be proper situations where cure could be effected by this form of compression below the clavicles. This treatment does away with the necessity (in many of the cases surgeons are called to treat) where those terribly dangerous cutting operations are required, which formerly was the only resort left to them. It does away with the necessity of manual compression, which so seldom succeeds. What great advantages attend treatment by compression in this way when we reflect that aneurisms have been cured in nine hours by the less certain plan of manual pressure. Then let us reflect how much less the patient is exposed to the chances of surgical fever, or of septic troubles. As the introduction of a pin is nearly always a bloodless procedure, the opportunity for the introduction of any form of germ is next to impossible.

Since the experience of the three cases already attended to, nine others have occurred in which the pin and ligature alone were depended upon as the hæmostatic agent. Two for amputations of the leg near the knee, three for amputations of the thigh, and one for amputation of the arm. In another case of railroad injury where the right thigh was torn off at the lower third, and the remaining leg the subject of compound comminuted fracture with great loss of tissue below the knee. The pins and ligatures were applied to each thigh below Poupart's ligament. The patient being in a moribund condition, no radical procedure was resorted to. The hemorrhage was perfectly controlled. As was expected, the patient died in a few hours.

In the last case operated upon, a boy 9 years of age, where the thigh was amputated at the upper third, the lower portion having been torn off, instead of introducing the pin near the inside of the vessels of the thigh, as in former cases, it was introduced outside of them (external to the femoral sheath). The result was perfect. The operation was performed at night, by artificial light, the assistants being one medical gentleman, who administered the chloroform, and the step-father of the boy. But one artery had to be tied. The boy is perfectly well.

On three occasions only has any bleeding followed the introduction of the pin. One was in the case of a boy, the bleeding being very slight and venous in character. After the ligature was applied, the bleeding immediately stopped, nor did it return after the pin was withdrawn. Another case was similar to this in all respects. Both patients are well. In the case of the patient where pins were applied to both thighs, in one it was accompanied by a slight arterial flow. The result of the patient (who was too weak to bear the use of an anæsthetic) making a sudden movement of the thigh, which caused the pin to be partially withdrawn after it had passed under the vessels. It was pushed through, thinking it was sufficiently deep to pass them in safety; a slight flow of arterial blood followed, but whether it came from the femoral artery or only a small branch, could not be determined. After the ligature was applied, all bleeding ceased. No opportunity for an examination of the parts was allowed after death. In this instance a compress was placed over the track of the artery before the ligature was tightened.

In a few cases a compress was applied over the track of the artery before the ligature was tightened, but whether it added to the efficacy of the compression is very doubtful. In very fat subjects it might be better, and could do no harm in any case. The last case operated upon no compress was used, and the artery (femoral) was found to be perfectly closed and the only vessel requiring a ligature. The patient recovered.

Should an accident occur such as has been recorded, where the pin has been partially withdrawn, it ought to be at once removed and introduced *de novo*.

The following case was treated with success: While passing on the street, a horse had just received a severe penetrating injury in the lower part of the left side of the neck, near the shoulder, causing a wound of the left primitive carotid artery. The thumb was thrust into the wound, the end penetrating the artery. This restrained the blood until a piece of moistened sponge, half the size of the fist, was thrust under the skin. It acted as a compress, and caused quite a large tumor under the skin. A large pin was passed through the skin and sponge near the base of the swelling, and the figure-of-eight ligature fastened over it, which arrested the bleeding perfectly, not even a drop appearing on the surface. The stream of blood which had flowed from the artery was three-fourths of an inch in size. This form of compression of arteries as a prophylactic can be adopted in any operation upon the extremities, whether from traumatic origin for the removal of tumors or other surgical requirements, and also for arresting arterial hemorrhage as the result of operations or any form of injury. The pin in each case to be applied to the most appropriate

and convenient source of arterial supply. It may also in some cases be used in the neck, head or face.

The utility and adaptability of this procedure in military surgery, particularly after a battle, is very apparent. All surgeons serving in the army will at once see and understand its great worth on the battle field. At such a time surgeons have neither the time or convenience for performing final operations. They see many wounded who are fast losing their lives from the effects of hemorrhage, especially in the extremities, with or without fractures. These cases can only be cared for temporarily. There a tourniquet, the only means now in use is applied, and the bleeding temporarily arrested. This would, however, take up considerable time, and, after its application, is frequently apt to slip. The tourniquet also shuts off the return of the venous blood, produces much pain and swelling, and if left too long will bring on gangrene of the limb. The application of the pin would not be followed by any of these bad effects. It could remain for days, as has already been proved without pain or swelling, nor could it slip out of its situation or arrest the venous circulation, but would leave the parts in a very much better condition for repair to take place. Its application would require but a few minutes, five minutes would give ample time for its adjustment, the pain produced would pass off at once. Patients treated could be left with perfect safety and security for days, until a permanent and proper place could be provided. Cases of this kind have occurred under the observation of the writer during our recent war, and he feels confident if the pin had been used in place of the tourniquet that more lives would have been saved.

Let us now look into the adjustment of the pins. In the first application of this procedure a needle was used, and after it was introduced, the ends were protected by corks, for the protection of the patient or assistants. Now that pins are used one protection for the point is only necessary, and in most cases the pin lay so close to the surface as to be entirely out of the way.

In all twelve experiences have been had with this new application of a pin used as a prophylactic and treatment for hemorrhage, it has proved perfectly successful in all. Its simplicity and ready application, as well as its safety, are some of its strong claims for general adoption. It also does away with the most needed skilled assistant. For instance, compare this with the former plans for security against hemorrhage in amputation at the hip-joint, such as the tourniquet applied to the aorta, the introduction of the hand into the rectum, the application of the internal compress to the external iliac artery, through the rectum, or the Davy lever or any form of ligature or tourniquet applied to the upper part of the thigh

at the groin, all of which are sure to give way when the head of the thigh bone is destroyed. Some of these are nearly as dangerous as the amputation itself and have led to fatal results. The author claims his method in hands of any surgeon or medical man of the slightest anatomical knowledge can perform this little operation of introducing and adjusting the hæmostatic pin with perfect ease.

A few words as to the treatment of aneurisms. No case has come under the care of the writer, but he feels it promises better results than any so far put in use, and one of its greatest virtues is (in this day of the germ theory) that it gives no opportunity, or nearly none, to their introduction into the system.

The same principle can be applied should we at any time meet with an abnormal distribution of arteries, as was the case of a division of the external iliac into two femorals in the case of Val Mott, when he successfully amputated the hip-joint. If the profunda be found it could be compressed in the same way as the femoral.

The results which have followed the application of this mode of suppressing bleeding have been so eminently successful that the author feels conscious that it cannot fail to come into general use. Its first application in the grandest and most dangerous amputation known to surgeons, illustrates its influence for good by converting its most dangerous complication into the simplest part of the operation.

THE SUCCESS OF REPEATED OPERATIONS UPON THE SAME NERVE, IN FACIAL NEURALGIA.

BY EDMUND ANDREWS, A.M., M.D., LL.D.,
SURGEON OF MERCY HOSPITAL, CHICAGO, ETC.

Neurectomy performed for *tic douloureux* permanently cures some patients, and effectually stops the pain of nearly all the rest for a period of from six months to two years, yet the majority sooner or later relapse. Clinical experience has demonstrated to me the somewhat surprising fact that these relapsed cases may be freed from their pain over and over again by repeated operations at exactly the same spot, even though the surgeon fail utterly to get away any more tissue from the stump of the nerve.

This result was unexpected to me, for Ross and others who speak of repeating the neurectomy in relapsed cases seem, like myself, to have supposed it necessary to find the stump of the nerve and operate directly upon it. Clinical experience also shows the important fact that operations performed in the old cicatrix cause little or no shock or hemorrhage, and, while arresting the pain for months or years, become a mere trifle in point of severity.

The numerous examinations thus made with

the knife show that in relapses after nenrectomy there is usually no reproduction of the excised portion of nerve.

A single typical case may illustrate my meaning as well as more.

Mrs. M., aged about 69 years, had suffered from violent trigeminal neuralgia in the inferior dental nerve. She had caused all the teeth of that side of the lower jaw to be extracted without benefit, the pain being still referred in full violence to the gums and adjacent parts. In reply to her entreaties that I should cut away the offending gum for her relief, I explained that it would fail, just as the extraction of the painful teeth had done, and that the nerve must be cut further back.

Unable to comprehend this, she refused the nenrectomy and pleaded for a gum excision. As there was a faint hope that a point of nerve compression might exist in the cicatrix, or if not, that an impression from there might induce a temporary beneficial change in the nerve centres, I at last consented, and removed the gums and the upper edge of the bone on which they rested. Not even a temporary respite from pain was obtained by the operation.

Some weeks later she begged for the nerve resection which I had previously advised. Etherizing her, I raised the integuments and the masseter muscle from the ramus of the lower jaw by means of a semicircular flap, and trephined the ramus in such a position as to come down upon the inferior dental nerve, where it enters the bone from the inner side. Separating the dental artery, I grasped the nerve firmly with a strong forceps, wound it around the beak and slowly pulled until I broke it off at considerable depth, thus taking it away by avulsion, as advised by Marshall, Jewell and others. The wound was dressed antiseptically, with a small drainage-tube in it. After the pain of the operation itself subsided, she was found completely free from neuralgia, and remained so for a year and a half. There was only a very moderate shock from the operation.

At the end of a year and a half she relapsed, and after trying medication in vain, begged for another operation. Hoping to find the stump of the nerve and remove another piece, but not yet comprehending that success did not depend on further nerve excision, I etherized her and again raised the flap, cutting in the line of the old cicatrix. The tissue yielded very little blood. The fenestrum in the bone made by the trephine at the former operation was still open so far as bony material was concerned, but the space was filled with tough cicatricial tissue. With a tenotome I carefully detached the cicatrix from the bone, dissecting inward until I reached the soft connective tissue within the jaw. I then seized the cicatricial button and, pulling it outward, sought for the stump of the nerve beyond. The search was in vain, as the stump could not be

discovered, so I applied a twisting force to the cicatricial button and tore it away, bringing with it a little of the connective tissue attached to its inner face, but bringing out no nerve tissue. The wound was then closed and dressed antiseptically.

To my surprise the success was brilliant. The patient was completely freed from pain and remained so for two years, when she took a railway journey of 1,000 miles and followed it by considerable exposure to rough weather in an unaccustomed climate, which resulted in a return of the pain, referred to its old place in the gums. After trying anti-neuralgic medication for some time, she insisted on another operation. I consented, and repeated the former process exactly, raising the flap by an incision in same line, and detaching the circumference of a tough button of cicatrix from the old trephine hole by the careful use of a tenotome. I then seized the cicatricial mass with stout forceps and, twisting it strongly, took it away by avulsion.

Working thus in cicatricial tissue, the operation was almost bloodless and totally without shock. The dressing was antiseptic, of course, and the patient recovered with ease and was again completely cured of the pain, and has continued so thus far, that is to say, about a month. There was no nerve trunk discoverable in the tissue taken away, nor in the bottom of the wound.

I had obtained like successes with other patients by searching for the stumps of excised nerves without being able to find them, but this was the first time I had deliberately operated with no hope of finding the nerve. I presume the curative principle is simply this: However deeply the cut extremity of the nerve may lie after the first operation, it necessarily becomes connected by a line or cone of cicatrix with the general mass of cicatricial tissue which forms in the wound and fills the fenestrum made by the trephine. The stump of the nerve is thus anchored to the cicatricial mass even if not very near it, hence the operator who carefully separates the cicatrix from the bone and then twists or pulls it away, necessarily makes a strong traction upon the nerve stump attached to its inner prolongation; in short, he makes a powerful nerve-stretching operation which acts on the same principle as Nussbaum's. My experience shows that this may be successfully repeated several times and, for aught I know, many times at the same spot.

An important point is that the repeated operations, being made in cicatricial tissue, bleed but little and produce no shock, and in fact are trivial operations, so that if they can relieve the suffering, though it be only for a year or two at a time, they will be a boon earnestly desired by the patient as long as they continue to be a success, and we may expect that, by persistence, some of the cures will become permanent.

It is a fair question whether the first operation

should not usually be a nerve-stretching, as advised by Nussbaum, Horsley, Bowlby, Underwood and Ross, instead of a neurectomy, since the repetitions can just as easily be made, if required. In the case of the inferior dental nerve the first operation can be performed from within the mouth, and thus avoid a visible scar. Operations on the supraorbital and the infraorbital trunks require moderate external incisions.

For the purposes of this article we may divide the obstinate trigeminal neuralgia into three groups:

1. Those where the peripheral extremities of a nerve, or portions of the trunk not inaccessibly deep, are the seat of inflammation, pressure, or other forms of irritation. These cases are rare, but they can be positively and permanently cured by neurectomy, and can be relieved at least by nerve-stretching; operating, of course, between the seat of irritation and the brain.

2. Where the inflammation has already passed along the nerve and reached the semilunar ganglion, or at least pretty near it, or where these deeper parts are primarily irritated from various causes. In these cases, and they are the majority apparently, we cannot cut nor stretch between the diseased part and the brain, but we can stretch the nerve, or remove it by avulsion, or excise a piece of it at no great distance from the inflamed ganglion itself. A nerve-stretching here acts mechanically to some extent upon the substance of the ganglion itself, bringing immense relief, and sometimes permanent cure, to the patient. It is also the opinion of neurologists that by cutting off the irritating external impressions from reaching the diseased part, we give them a prolonged "physiological rest" and strongly favor recovery.

3. Where the seat of irritation is in the brain or medulla oblongata, or in the nerve between the medulla and the semilunar ganglion, but not in the ganglion itself, we are unable to exert any direct mechanical force upon it, but the operations may still be curative by cutting off the reception of irritating external impressions and obtaining for the diseased part of the cerebrum the physiological rest already mentioned.

My conclusion is that repeated operations at the same point are of great value in relapsing cases, that they are not dangerous nor exhausting, and afford a patient a relief which, by some repetitions, will often make him entirely comfortable for the remainder of his lifetime.

No. 6 Sixteenth St., Chicago.

HEART STRAIN AND WEAK HEARTS.

Read before the American Climatological Society, Washington, D. C., September 21, 1888.

BY JAMES J. LEVICK, M.D.,
OF PHILADELPHIA.

In the remarks I am about to offer I have put together a few facts and notices of cases coming under my immediate care or notice. The subject is one which has already claimed considerable attention. Were I to give a bibliography, I should name among those who have written on this subject the President of this Society, Dr. Loomis; Drs. Robinson, Kelly, DaCosta, Delafield, Chew and others.

I became, myself, first personally acquainted with the morbid condition referred to, in my early manhood, in a hurried walk up Mount Washington. This required hard climbing, as any one who attempts its ascent on foot will find. Long before I reached the summit I was conscious of an oppression in breathing, a want of breath in fact, and a distressing ache of the heart, which made me regret the venture. From that day to this I have never made the ascent of a mountain of any considerable height without a reminder of this occurrence. A similar experience is recorded by Dr. Clifford Albutt, and by mountain climbers in the Tyrol, and elsewhere. That a strain of the heart made in this way, or by any other modes of excessive muscular action, even in early life, may leave its effects for years, I have not a doubt.

Hence, I am not enthusiastic when I read of the tremendous strain brought on the heart of the successful oarsman in his last "spurt," by the champion lifter of many hundreds of pounds, or by the prize taker in the run of so many miles. Nor do I at all sympathize with the craze for climbing mountains, in which so many young men and women indulge.

It is true that in these young athletes the heart and its adjacent tissues are much better able to bear and more readily to recover from the strain than they are later in life, but that, even with them, a permanent injury may be received, I well know.

I have no better name to offer for this morbid condition than that of heart strain, nor can I apply to the condition which follows the oft repeated occurrence of these phenomena any title more descriptive than that of *weak heart*.

There is indeed a weak heart occurring in the course of, or as a sequence of, acute disease, very different from that to which I refer. It is a condition which we cannot be too vigilant in watching for, or better, in guarding against. It is notoriously frequent in the parturient woman after an exhausting labor, it is one of the most frequent sequelæ of diphtheria, but it is also not unfrequently a concomitant of pneumonia and of typhoid fever, and I suspect many of us can re-

TO CALCULATE THE CAPACITY OF CISTERNS.
—A correspondent of the *Scientific American* gives the following rule for calculating the capacity of a cistern:

Rule.—Square the diameter of cylinder in inches, and multiply by 0.0408 = gallons per foot.

call cases in which, after the patient has seemingly passed successfully through these diseases, a fatal result has followed the undue taxing of the heart by the patient too early assuming the erect position.

But the weak heart to which I refer comes on gradually, and after repeated strain, sometimes without obvious cause, though such cases are often associated with a gouty diathesis. More frequently a careful investigation will show that nervous causes, emotional in their nature, and especially those of a depressing character, loss of fortune, or of good name, the misconduct and disgrace of children, have been followed by this heart ache. Now, the slightest unusual exertion, the simplest emotion will bring on an attack, and the temporary stasis of blood in the heart favors the gradual distension, dilatation and weakening of the heart itself. And yet this dilatation is rarely such as to develop cardiac murmurs. I have known many more sudden deaths to occur from heart trouble, where there was no appreciable murmur, than where there was one. Given, then, the absence of cardiac murmurs, the presence of heart ache, oppression in breathing on rapid exertion, going on to dyspnoea, though rarely the dyspnoea of valvular disease, with pain in the epigastrium rather than in the hypochondrium, with eructation of gas, coming on later, and affording relief, and we have symptoms which have long been grouped together under the title of "Angina Pectoris," the diagnosis of which would seem to be of the simplest character. And yet the early detection of the nature of these phenomena, so amenable to treatment early, so resisting later, is often neglected. In the first place, the pain is almost always referred by the patient to the epigastrium and regarded by him as a disorder of the stomach. This is confirmed if there be, as there almost always are, eructations of gas, giving relief to the patient. It is a case of dyspepsia, or of "bilious" disorder, and for a long time is treated as such. No lesson should be more early and more emphatically impressed on the mind of the young physician than that he be not misled as to the real seat or cause of the pain by the place or position to which the patient refers it. Many a case of thoracic disease, pleurisy, pneumonia and cardiac trouble, has at first escaped detection because the patient, especially if he be a child, has pointed to the epigastrium or the abdomen as the seat of pain. Nor should the absence of the historic pain down the left arm mislead. It is not an essential symptom, especially in the early stages or milder forms of this malady. Unless properly treated and early, the symptoms which have been enumerated become more and more aggravated, and death suddenly occurs. In cases of sudden death occurring to patients thus affected, under my own care or notice, the following appear to have been the imme-

diately exciting causes of death. They are noted here that persons thus affected may avoid them.

First. *Walking on slippery, icy pavements on a cold day.* The patient had walked three or four street blocks to church, and died soon after taking his seat there.

Second. *Hurrying to railway station immediately after eating a hearty meal.*

Third. *Driving for some miles a hard-mouth horse.*

Fourth. *Riding a hard-mouth horse.* This patient had been helped by gentle horseback riding.

Fifth. *Sawing off the limb of a tree in his own park.* The limb required some effort to reach, the position was a constrained one. This gentleman had had frequent attacks of this disease—a feeble heart. A violent paroxysm followed this exertion, and he died before medical aid could be obtained.

Sixth. *Hurrying from one steamboat to another, carrying at the same time a heavy hand-bag.*

Seventh. *Assisting to carry a trunk from the railway van to the station.*

Eighth. *Shovelling coal into the furnace in the cellar.*

Ninth. *The act of sexual intercourse.* Three cases of this kind have recently come under my notice. In the first, a married man, æt. 65, a violent paroxysm of cardiac pain, immediately followed this act. The patient lived for more than six months, was liable to severe paroxysms of dyspnoea—which he never had before—and died suddenly as he arose from his tea-table. A post-mortem examination showed the absence of valvular disease, but the existence of a firm fibrinous clot in the ventricle, which was evidently ante-mortem, and which doubtless was formed coincidently with the first severe paroxysm, six months before.

And this leads me to say that I have no doubt coagula, thrombi, and heart-clots not unfrequently form in a prolonged paroxysm of this kind. The second case was that of a gentleman æt. 72, single, and remarkably hale and vigorous for his years, but who had at long intervals attacks of heart pain. After a morning drive, his coachman driving, he "visited"—I use his own words—"a lady and committed venery." He was almost immediately seized with an intense pain near the heart, but managed to walk home, a short distance, and I found him there with a cold skin, very feeble pulse, although he walked forward to receive me. He was immediately put under treatment, but death rapidly supervened. A somewhat similar case is reported of a judge of the Nottingham assizes, who was induced to go home with a young woman of the town, who testified before the coroner that immediately after having had intercourse with her, he turned on his side, gave a groan and died. I have recently seen in con-

sultation a fatal case of heart failure in a elderly man, where the history of the case pointed to this as the cause of death.

A careful examination into the history of this form of heart trouble leaves no doubt on my mind that it occurs more frequently in cold than it does in warm climates.

It is very frequent with us of the Northern and Middle States. It is appallingly frequent in England with its cold, wet and depressing climate, and especially so among the more intellectual classes, and as I have already said is, I believe, often developed in early life by boat racing, which, becoming now so general with us, has for generations been the practice in the English universities.

While I have no doubt that the direct influence of cold, is a large factor in the development of this morbid condition, the easy, careless, indolent life which a warm climate induces may have much to do with its rarity among the Southern people.

Intense cold, occurring periodically, not only predisposes to this condition, but also invites the paroxysm. The terrible blizzard of last winter proved directly fatal to many subjects of this malady, and laid the foundation of the disease in others who from lack of railway conveniences were, to reach their homes, compelled to battle with wind and snow as they never before had done. So thoroughly convinced was the late Dr. Ludlow, of Philadelphia, that cold was an exciting cause of these attacks of heart pain, that he proposed to call the fatal cases occurring in winter cases of *cold stroke* as opposed to *heat* or *sun stroke* of the summer.

Alive then to the predisposing and exciting causes of this malady the treatment becomes a simple, though not always a successful one. And yet, early detected—not misled by the supposed seat of pain and regarded as a gastric disorder—the patient will derive great benefit, first by the simple avoidance of exciting causes, and secondly by a change of climate.

I know of no place in this part of the country, equal, in the summer time, to that of the Adirondacks of Northern New York. The late Dr. Ely, of Rochester, who suffered in this way, has told me that he found great relief at Saranac Lake, and I have known others much helped at St. Regis. I do not mean by naming these mountainous regions to advise the climbing of mountains as recommended by Oertler,* but in this delicious atmosphere an amount of exercise may be taken, even gentle pulling with the oar which could not be borne elsewhere.

Next to this, if there be no valvular disease—and the two conditions are sometimes associated

—and if the patient be a good sailor, the happiest results may be expected from an ocean voyage and foreign travel. But, before the patient starts on this voyage, a solemn compact must be made with his physician that he will not hurry for trains or carry hand luggage, a practice much more common in England than it is here.

In the English Channel islands, the Isle of Wight, Jersey, and especially in Guernsey, he will find beautiful scenery, a balmy, healthful atmosphere, the comforts of home, and, in Guernsey, at extraordinary little cost. I believe by such a course of treatment, early adopted, and, as has been said, by the avoidance of exciting causes, this condition of the heart may be greatly helped, if not entirely cured, and this, too, without the use of drugs, or, if any, those of the simplest character.

Next in value to a change of climate and moderate exercise in a favorable environment, I believe most benefit will be derived from the prolonged use of moderate doses of *nux vomica*, five drops of the official tincture three or four times daily, either with or without the compound tincture of gentian. Nitro-glycerine has been strongly recommended, and doubtless has its value, though it has more than once disappointed me. At the recent meeting of the British Medical Association, held in Glasgow, a paper was read on *The Cactus Grandiflora*, which, in tincture, was recommended as especially suited to this condition of the heart, and as free from any of the objections which apply to digitalis, strophanthus, and to convallaria. This remedy had previously been recommended by Rubini and others. In a violent paroxysm of heart pain, I think we shall all agree that nothing is so promptly effective and, judiciously used, so free from danger as is the inhalation of a few drops of nitrite of amyl—a much safer remedy for a feeble heart than is the hypodermic injection of morphia, from which I have known fatal results. Digitalis, as a remedy for this and other forms of cardiac trouble, has been largely used, and in expressing my estimate of its value I shall probably differ from some of those who hear me. Until within about twenty years ago or more, it was universally taught that digitalis was “a heart sedative;” that, in its long-continued use, a cumulative effect was induced, which, if not carefully watched, was liable to be followed by fatal consequences. Suddenly there came the announcement that all this was an error, that physiological experiments had shown digitalis to be a heart tonic, and that the cumulative action of digitalis was a delusion, if not a snare. And then came the natural rebound from the old caution, and a generation of physicians has grown up, who, regarding it solely as a heart stimulant, use it with a freedom—I had almost said a recklessness—which I honestly believe is a most pernicious practice, and against which I wish to enter an

*If I understand the treatment proposed by Oertler, it is not all intended for the class of cases we are considering, but is rather a system of well regulated diet and exercise admirably suited to the obese, beer drinking people of Central Europe.

earnest protest. There is no form of heart weakness in which it has not of late been used, whether it be the chronic form of heart-failure which has been spoken of, the paralyzed heart of diphtheria and other acute diseases, nay, I have even known it administered to a poor, parturient woman bleeding to death from placenta prævia whose failing heart it was proposed to stimulate, not by brandy, ammonia, and such well-known remedies, but by—digitalis!

Whether, then, digitalis be a heart sedative or a heart tonic, and I believe under certain circumstances it may be one or *both*, it is a medicine which requires judgment in its use. It is not to be administered merely because the patient has a weak heart. It should never be used until careful auscultation has revealed the condition of the mitral, aortic and other orifices. If we accept the teachings of modern physiology that it gives increased power to the heart, we are bound to accept the same authority that, by contracting the arterioles, it increases also the resistance to the exit of the blood from the heart. If we accept the unmistakable authority of long, practical experience we must admit that cases of sudden death not unfrequently occur to patients using digitalis whose death could not be referred to heart disease alone. Such cases teach us that if digitalis be used the dose must be a small one if the patient be walking about, that its effect on the pulse must be closely watched, and that if the dose be increased the patient must strictly keep the recumbent posture. They also teach that in sudden failure of heart power digitalis is a doubtful if not a pernicious measure; that it is never to take the place of ammonia, brandy, oxygen and other well-known stimulants. In a word—in the hygienic measures which have been named, in the avoidance of exciting causes, in iron, and especially in nux vomica, we have remedies more certain in their effects, more free from danger than is digitalis.

I am indeed quite disposed to believe that in the morbid condition we have been considering, it would be better to dismiss from our practice those medicines which are supposed to act directly on the heart and to content ourselves with those remedies which act by improving nutrition and giving tone to the general system. For, after all, it is not the heart tissue which is alone affected, or which is the most important factor of the disease. Rather is this to be found in those structures which preside over its innervation, nutrition and function—those great ganglionic centres, of which we say so much, but know so little—which are indeed the Huguenots of pathology, to which everything that is obscure or undetermined in the ancestry of disease is with such complacency and self-satisfaction attributed.

A CASE OF TYPHOID FEVER TREATED WITH SALOL.—WITH REMARKS.

BY R. H. DAY, M.D.,

OF BATON ROUGE, LA. EX-PRESIDENT OF THE LOUISIANA STATE MEDICAL SOCIETY, AND PERMANENT MEMBER OF THE AMERICAN MEDICAL ASSOCIATION.

Willie Thomas, colored, æt. 17 years, was taken sick on Monday, October 22, 1888, was brought home on Friday, the 26th, and on Monday morning, the 29th, I was called to see him.

The following conditions were noted: Skin hot, dry and pungent, pulse 110, temperature 102.4° F., respiration not counted. Tongue red, parched and deeply fissured, with sordes collected upon front teeth and lips, low muttering delirium, urine scanty and high colored, stools not very frequent, but small, watery, and offensive; abdomen slightly tympanitic and sore upon pressure.

This boy, residing in Baton Rouge, had gone to work on a sugar plantation, necessitating hard work, loss of rest, rough living, and considerable exposure; and a week of cool rainy weather during the time greatly intensified these unsanitary conditions. This sickness was ushered in with a slight chill, succeeded by high fever, which was said to have been continuous up to the time of my visit, the ninth day of his sickness; but I suppose there had been slight morning remissions, since at my evening visit of this day I found his temperature up to 105° F. and his pulse 130.

I had no difficulty in diagnosing this as a typical case of typhoid fever—not *typho-malarial*, but *typhoid*, *ab initio* and *per se*, induced by the cold and wet to which he had been exposed, with loss of rest at night, and the other unsanitary conditions to which he had been subjected. There may have been some local potent factor, other than those mentioned, but if so, I have not been able to make the positive discovery.

At my first visit I made the following prescription:

R. Hydrar. chlor. mitis. grs. xx
Pulv. ipecac. pulv. opii aa grs. iiij
Pulv. nitras potass. grs. xxx

℞. Divide into six powders.

S.—Give one every two hours; also applied over the abdomen a warm flax seed meal poultice, with peach tree leaves incorporated with it.

In the evening of same day, when I saw him, he had taken five of the powders, which I then discontinued, and prescribed 10 grs. of quinine, with 2 grs. antifebrin in combination, every four hours. Up to my visit next morning, 30th, he had taken four doses with no obvious effect whatever, his temperature being up to 103° F., and his general condition, if possible, more threatening. Satisfied that quinine would be useless, and realizing the extreme gravity of the case, and its certain tedious progress, even should a fatal result be averted, I determined to give salol a trial, a drug that has recently gained some favor with the profession in cases involving irritation and in-

flammation of the mucous coat and glands of the intestinal canal.

I prescribed, formed into an emulsion, 5 grs. salol and $2\frac{1}{2}$ grs. Dover's powder, to be given every three hours, and also 8 grs. antifebrin every three hours, till his fever was reduced, and then to be repeated whenever a rise in his temperature returned. My visit in the afternoon of this day showed a slight improvement in his symptoms, his temperature standing as in the morning, while his tongue was less dry and parched, and he had had only one discharge from his bowels, with a freer urination. I directed the same treatment continued through the night.

On Wednesday morning, 31st, the third day of my attendance, and only 24 hours from the commencement of the salol mixture and the antifebrin, I found my patient free of fever, had rested well during the night, and had taken only two doses of antifebrin during the night, one in the early part and the second about 2 o'clock A.M., while he had been taking the salol mixture every three hours since it was commenced. His temperature was now normal, his tongue moist, cleaning off, and he had passed no stool for 24 hours. Thursday morning, Nov. 1st, temperature remained normal and his general condition evidently improved. He had rested well all night and had not needed a single dose of antifebrin. No action still from his bowels, but no uneasiness or tenderness under pressure or percussio, and I would not permit a cathartic, nor even an enema, to be given, which was urged by his relatives. The salol mixture was now ordered every six hours.

Friday, Nov. 2d: Patient unmistakably convalescent; tongue cleared off and moist; temperature normal, and some desire for food. Saturday morning, Nov. 3d: Patient's convalescence progressing and well assured. Salol mixture advised to be given three times a day and kept up for several days and the patient discharged.

Remarks.—While the results in one case of sickness cannot establish or settle the value of any one remedy or line of treatment in a given disease, yet such was the prompt and decided good effects of salol in this case of typhoid fever, that I feel I should be derelict to my professional duty if I did not promptly report my experience of it to the profession.

Here was a typical case of typhoid fever, grave from its onset, clearly pronounced by all of the characteristic symptoms of this disease, existing a week without medical or hygienic treatment, and under very unfavorable environments; a case, representing a class of cases, usually running from three to six weeks and longer, and frequently terminating fatally under our best known plans of treatment, that was aborted or cured in four or five days with salol, assisted by Dover's powder; and antifebrin only as needed to keep down the febrile temperature.

So clear are my convictions of the good results achieved directly by the use of this new therapeutic drug, that I shall certainly give it a more extended trial in cases of typhoid fever, as well as in enteric affections, where the mucous membrane, follicles and glands are in an irritable or inflamed condition—a condition which so frequently complicates many of the diseases in Southern latitudes (and Northern latitudes as well), or supervenes during their progress.

I trust that the observant and thinking men of the profession, who may read this report, will be induced to give salol a careful trial in their typhoid cases, and in other cases where the enteric pathological lesions exist as are above indicated, and give the result of their trial and observations publication in our medical journals, that its real value and correct therapeutic properties may be known and well defined.

"Salol," says Squibb, "is said to be a combination of about 60 per cent. of salicylic acid and 40 per cent. of phenol or carbolic acid," combining the properties of these two agents; and further adds that it is controlled by patents, both in Germany and this country. This I regard as very unfortunate, since all mercenary tricks in pharmacy or any other branch of medicine are opposed in principle to the humane and scientific labors of physicians to benefit the human race, and elevate and dignify the science of medicine.

But while these patents upon salol are to be regretted and denounced, and will temporarily enhance its price, they should not prevent a fair trial of its therapeutic properties and merits as a medicinal agent, since the paramount consideration is the good of the human family.

BRIEF NOTE ON TWO CASES OF PRIMARY, DIFFUSE, EXFOLIATIVE DERMATITIS. (PITYRIASIS RUBRA?)

Read before the Section on Dermatology and Syphilography, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY FRANK WOODBURY, A.M., M.D.,

PROFESSOR OF THERAPEUTICS, MATERIA MEDICA AND CLINICAL MEDICINE IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA, ETC.

In eighteen years of clinical experience in private and hospital practice, I have encountered only two instances of the pathological condition which I believe is best described by the title of "primary, diffuse, exfoliative dermatitis." Were they cases of pityriasis rubra? This is a question that I find difficult to answer, knowing that this diagnosis will not be accepted by some, although the cases, to my mind, typically presented the characters usually described in the books as indicative of that disease.

It is often said in a facetious manner that, if the patient get well, it is not a case of pityriasis

rubra. Should this be accepted as a test, then only one of the cases I have to report will answer the requirement of the dermatologist; the other, by making a good recovery, being *ipso facto* excluded.

In using the word "primary," I wish to be understood simply to imply that the disease was not part of a systemic morbid process (*i. e.*, like scarlatina or syphilis); as far as I was able to discover, no such specific cause was operative in either case. At the same time, I do not mean by "primary dermatitis" rigidly to limit the morbid action to the skin itself so as to exclude changes in the nerves, or a pathological state of the great ganglia. On the contrary, I have been impressed in the study of these cases with the fact that the symptoms and course of the disease point to possible involvement of the nerve centres or peripheral nerves as the real *causæ morbi*, a condition, however, which thus far is purely a matter of inference, and not of demonstration by any means. I may say that my treatment was based upon this theory, the leading indication being, *first*, to relieve the irritation of the skin, which, by preventing a proper amount of sleep, produced exhaustion of the great nerve centres; and *secondly*, to build up the system by easily assimilated, nourishing food, and particularly by fatty substances like cream and cod-liver oil in pancreatized emulsion. Fat being the special nutriment of nerve structure, an effort was also made to introduce this agent through the skin by means of inunction with cocoa-nut oil.

I must apologize for the paucity of the notes of the cases; my sole object in submitting them is to introduce the topic for discussion, in order to obtain your views upon the relation of such diffuse exfoliative dermatitis to the disease which has been recognized in Europe by the name pityriasis rubra, and, if possible, to elicit the pathognomonic features of this disease, if it really exists as a distinct affection.

Case 1.—Julius B., æt. 40, a member of a German band which furnished music for a summer garden on the outskirts of Philadelphia, was admitted June 30, 1882, into the German Hospital, and I saw him on the following day. He then presented the following appearance: He was well nourished, appetite and digestion fairly good, intelligence and special senses unaffected; he had no fever. His skin was uniformly red like a boiled lobster, and was interspersed with thin epidermic scales which were everywhere seen curling up from the surface and adhering by one edge. Very few of these scales were as large as his little finger nail; most of them were less than a quarter of this size. They were nearly round, or irregularly elliptical, and of about the uniform thickness of white tissue paper, which they greatly resembled; many of them lying in the bedclothes were much smaller, and appeared broken up. These scales were

freely shed and a goodly quantity, half a pint or more, were shaken out of his bed several times daily. The palms of the hands, the soles of the feet, and the hairy scalp were not exempt; even the eyebrows and thin beard were mixed with scales. The skin was not thickened. There were no crusts: the only approach to such a condition was where the patient had injured his skin in scratching and had produced some linear or irregular abrasions, which were covered by dried serum. No eruption was seen upon the body, either papular, squamous, vesicular or bullous. The skin was dry, and where the scales had been shed was shining.

He did not complain of the itching, but constantly scratched or rubbed his limbs or body, apparently automatically and unconsciously. The irritation did not keep him awake at night, although it shortened his sleep. The surface of the body was not moist, but had rather a greasy appearance suggestive of fine parchment; he was quite susceptible to cold. He came into the hospital for treatment more on account of the peculiar appearance than because of any suffering or discomfort attending the disease.

His family history was negative. His own health had been generally good. Syphilis or venereal disease was denied. He was not subject to skin eruption, but thinks that he had some moist tetter some years before, and was always troubled with dandruff. The present affection appeared about the head first, some three weeks before admission; he was not very clear with regard to the first manifestations of the disease; he evidently was not a close observer, and probably was not very familiar with the usual appearance of the surface of the body and did not bathe very often. At all events, the disease gradually spread over the surface of the body until it attracted his attention by the general scaling off of the epidermis, which became so marked about a week before his admission that it attracted the attention of others, and he was led to seek medical assistance. He was ordered to bed and treatment instituted which resulted in cure, and he was discharged (July 22) in three weeks' time perfectly well.

Case 2.—Mr. X., æt. 69, of German descent, born in the suburbs of Philadelphia, a retired merchant, came under my care after he had been treated for nearly two months by another physician, who apparently had not recognized the disease. I was called to see him January 15, 1887, at a time when his case was pronounced hopeless by his former medical attendant. The characters of the disease were identical with the preceding, except that around the ears there was an eczematous appearance, and in this patient the itching was a marked feature. He was constantly rubbing his hands or scratching his limbs, or picking at his face. There was also an evident mental impairment; at times he was slightly delirious, and a

few days before I had been called in he had gotten out of bed and found his way into the street, only partly clad, so that he had to be constantly watched. This feature may have been due to the nervous exhaustion caused by the disease, to senility, or to chronic alcoholism, or possibly to a combination of all of these causes.

The history given me was very briefly the following: He had a gouty ancestry and was fond of malt liquor. When a young man he had an eruption upon his face and hands, and was subject to furuncles. In 1885 he had an ischio-rectal abscess, and was very sick after it was opened. In March, 1884, he had an attack of gout, and for some time afterward his leg was much swollen and red, and was attended by pruritus. The present disease apparently commenced in his eyebrows and behind his ears. As he scratched the skin it became inflamed, and in some places small points of suppuration developed; at least this was the statement made to me by his wife. He did not take proper care of himself and was very irregular in his eating, drinking and sleeping. The inflammation, about ten weeks before I saw him, had spread from these centres about the head to the rest of his body. I could not ascertain positively whether distinct areas of dermatitis occurred upon the body and subsequently coalesced. His mind was not very clear, and his family could not give me accurate information upon this point. He had no pyrexia, and were it not for restlessness and insomnia, he would not have been much incommoded by the disease. The scales were very abundant, so that his wife said that she had to remove them from the bed several times daily with a dustpan. His appetite was good, but was easily satisfied; he had a good deal of thirst.

For a time the patient seemed to markedly improve under the treatment, but it was only temporary; his vital forces were not sufficient to enable him to rally, and he died of exhaustion on February 3, in a little over two weeks after I took charge of his case. I might say, however, that the condition of his skin had decidedly improved in this short period; his itching was decidedly relieved, and the scales were reduced to one-third of their former quantity, and he was enabled to rest much better at night. The mental symptoms, however, did not much improve, and toward the last he was constantly delirious and he died comatose.

NOTES.—With regard to the diagnosis of these cases I would state that, in every essential particular, they were alike. In the second case I had the valuable assistance of Dr. Arthur Van Harlingen, who saw him several times, and who gives me the following extract from his notebook:

"The eruption was of several months' duration; it consisted in an extreme general scaliness of the skin over the entire body, accompanied by diffuse redness with slight infiltration. The exfoliation

eruption consisted of very numerous, generally small scales, easily detached and produced in great quantity, so as to fill the bed after lying in it all night. The scales on face and scalp were small, while those on the palms and soles were large. There were abrasions here and there from scratching, the eruption being very itchy."

The opinion which I expressed that it was a case of primary exfoliative dermatitis was approved by Dr. Van Harlingen, who, however, withheld his decision with regard to its being a case of *pityriasis rubra*.

Dr. John V. Shoemaker, who subsequently very kindly saw the case with me, thought—so I understood him at least—that it was a typical illustration of this rare disease.

I shall not take up time by discussing the points of diagnosis between the morbid process here illustrated and psoriasis, eczema squamosum, lichen ruber or pemphigus. I will say, however, that in the presence of itching these cases do not agree with the description of *pityriasis rubra* given by some writers. How a diffuse inflammation of the skin, such as we find in these cases, attended by free desquamation, could escape being attended by some irritation and itching, I cannot imagine. A high degree of pruritus certainly was not noticed, but itching and scratching were a feature of the affection from which these patients suffered.

With regard to treatment, it may be said to have been not specific, but supporting. Absolute rest in bed with a bland diet, principally milk, was insisted upon. Cod-liver oil with hypophosphites, the elixir of calisaya, or compound elixir of iron, quinine, and strychnine, with saline laxatives, and small doses of morphine at night, comprised the internal medication. Alkaline warm baths once a day (80° to 90°), followed by free innunction with cocoa-nut oil, decidedly ameliorated the condition of the general surface, while for the local lesions caused by scratching the benzoated oxide of zinc ointment was freely used. At the suggestion of Dr. Van Harlingen tar (*picis liquidæ* 5j; ung. *zinci oxidi*, 5ij; *petrolati*, 5vj. ℞.) was also used with excellent effect in relieving the irritation.

With regard to causation, I point to the fact that one patient was a German and the other of German parentage. One was distinctly gouty. Both used malt liquor freely and were irregular in habits of eating, and rather negligent of the state of the skin. Both told me that they were fond of bread and mustard, and frequently took a lunch of this kind in preference to going home to meals. Personally, I am inclined to accord to the mustard and chronic gastric irritation (gastric catarrh) a large share in the etiology of the disease, to which other causes, such as alcoholism, undoubtedly contributed. The urine, though repeatedly examined, gave no warrant to the hypothesis that renal disease was present in either of the cases above reported.

NAUPATHIA OR SEA-SICKNESS. SYMPTOMATOLOGY, PATHOGENESIS, AND EFFICACIOUS TREATMENT.

Read by Title at the Thirty-ninth Annual Meeting of the American Medical Association, May 11, 1888.

BY W. W. SKINNER, M.D.,
OF PEORIA, ILL.

It is not without much reflection that I venture to bring before the Association a paper upon such an old subject as sea-sickness. This subject, however, which I have the honor to develop anew before this assembly, has recently become enriched both by new theories regarding the nature and pathogenesis of sea-sickness and, what is still more practical, by new methods of treatment which bring into action medicinal agents not hitherto exhibited in this affection, and which are recognized to have beneficial and even curative effects. There is much in this matter that is new and important; the Academy of Medicine of Paris recently discussed it in one of their séances; and it may be profitable to briefly review it here, in order that we and our patients may be spared that atrocious suffering to which those who venture upon old Neptune's domain are exposed.

The author of this paper does not come before you without having had some experience in the treatment of naupathia. He has, in fact, made it the object of special research during the last two years, and the voyages he has made amount to nearly 60,000 miles of ocean, made upon French steamers plying between France and South America, between Belgium and the United States, and between France and the United States. He was the medical officer on board these ships, and in that capacity he has come into direct relation with more than 2,500 passengers.

With the object of discovering, if possible, the nature of sea-sickness, I have carefully examined all observable symptoms in this affection, and have found many which had not before been observed. Let us, then, enumerate these symptoms, which, when intelligently interpreted, will, I am convinced, lead to the true understanding of this hitherto mysterious affection.

We will suppose an otherwise perfectly healthy person suffering from a complete attack of sea-sickness. The nervous system yields the following symptoms: Great prostration, indisposition to make the least effort, vertigo, intense frontal or temporal cephalalgia, insupportable sensation of uneasiness, weakness and discomfort, sometimes causing the patient to groan continually; and finally, insomnia which may extend over a period of several days. All the modalities of reflex action are preserved intact. One important symptom remains, myosis, which is often observed in these cases. This symptom is of great importance in the study of the pathogenesis of naupathia, as will be seen a little later. The digestive apparatus

furnishes the most striking and best known phenomena: anorexia, adipsia, paleness and coldness of the lips, salivation, nausea, emesis, gastralgia (which is frequent after three or four days of sickness), and especially constipation. The tongue, liver and spleen are normal in uncomplicated cases. From the circulatory apparatus we have: Diminished force of the cardiac pulsations with consequent abnormal depressibility of the pulse; decrease or increase in the number of cardiac revolutions per minute (constant decrease in men, descending so low as 57, 51, and in one case 45 beats per minute, and decrease in one-half the cases in women; with the latter there is often increase [114 without fever has been observed]); while in children of both sexes there is almost always increase—the maximum I have observed is 120 beats per minutes without fever); the capillary circulation appears diminished, as may be inferred from the coldness of the extremities, ears, lips and nose, and from the extreme paleness of the skin. The muscles composed of unstriated fibres which receive their motor nerves from the great sympathetic system are evidently parietic, as is denoted by the inertia of the intestine and by the myosis. The urine, as is well known, is excreted in exceedingly small quantity. It preserves its normal color, precipitates no sediment, is acid, clear, and free from albumen and glucose. Finally, sea-sickness is an apyretic affection; it has no period of incubation, properly speaking. Its period of invasion is exceedingly variable, being from a few seconds to several hours according to the predisposition of the person concerned.

For all these varied phenomena there is, I think, a simple explanation to be advanced; one which clears away much of the mystery which has hitherto enveloped this peculiar affection, and which points the way to its rational treatment, as the results of the new method show. Sea-sickness ought to be regarded as the expression and result of certain purely functional or dynamic perturbations of the organism, for organic lesions there are none known. *These perturbations can all be referred directly or indirectly to the sympathetic nervous system. Every symptom named above can be explained by invoking a paralysis, or at least a paresis, of this system, and sea-sickness can be cured by those alkaloids which stimulate the great sympathetic and the unstriated muscular fibres to which it is distributed.*

It is really remarkable how this theory harmonizes with the phenomena observed and with the results obtained. The constipation, for instance, must be due to the defective action of the great sympathetic upon the muscular coat of the intestines; the myosis, as is well known, to its defective action upon the radiated fibres of the iris; the slowness and weakness of the heart's action to defective action of the cervical portion upon the intracardiac motor ganglia (as Brücke, of Vi-

enna, and others have shown).¹ Finally, general paresis of the great sympathetic admirably explains the lowering of the blood-pressure which is undoubtedly present in this affection, for Cl. Bernard, Vulpian and Brücke have proved that this nerve regulates the tonus of the arterial system through its action on the muscular tunic of the arteries.

This diminution of the pressure of the blood is, to my mind, the key to the enigma of sea-sickness. But upon what grounds may we admit the existence of this condition? The following considerations will help elucidate the question: The lowering of the blood-pressure is indicated by the scantiness of the urine, by the abnormal depressibility of the pulse, by the coldness of the extremities, by the extraordinary pallor of the skin, and by the indubitable signs of acute cerebral anæmia (prostration, apathy, vertigo, cephalalgia and insomnia). The symptoms of nausea and vomiting are generally attributed to anæmia of the medulla oblongata which is due, most probably, to the general lowering of the arterial tension. There is, moreover, an additional evidence of the verity of this hypothesis. I have demonstrated by actual manometric experiments upon the lower animals that the alkaloids employed in the new method of treatment which I propose, and which cures sea-sickness, really possess the property of raising the blood-pressure. The results of these experiments were published in the *Bulletin général de Thérapeutique*, July 15, 1886. It would seem, therefore, that one was fully authorized to admit that the pressure of the blood is lowered in this affection. If this conception of the nature and immediate cause of sea-sickness be correct, you may already perceive which important class of agents ought theoretically to cure it. It is that great class called cardio-vascular tonics and some of the substances of the class of neuro-muscular agents that ought, *à priori*, to act as specifics in naupathia. We will see in a few moments later how admirably these agents operate.

The question now arises, "But what is the cause of the paresis of the great sympathetic that produces the lowering of the blood-pressure?" The cause of the paresis of the sympathetic is, doubtless, what Bidder has named *reflex inhibition*, which may have its origin either in the sensorium (the centre for vision and olfaction) or in the terminal nerves of the abdominal organs. It is undeniable that these organs are slightly displaced and contused by the movements (sometimes violent) of the pitching and rolling ship, and thus the terminal ramifications of the sympathetic nerve distributed to these organs excited, thereby constituting the origin of the reflex action in question. In fact, in a recent communication to the Société de Biologie of Paris, M. Dastre, the

successor of Paul Bert to the chair of physiology of the Sorbonne, demonstrated the displacements of these organs by citing experiments made in his laboratory upon the lower animals.

In sum, this is the chain of influences that produce sea-sickness according to this theory: Excitation of the nervous extremities in the abdominal viscera produced by the movements of the ship, or excitation of the senses of vision and olfaction, or of both, causing by reflex action a suspension of the motor functions of the great sympathetic which in turn results in this general lowering of the blood-pressure with all its attendant symptoms. (Chapter on Diagnosis omitted.)

The theory thus passed, let us turn to the practical fact of the prompt cure of naupathia in the vast majority of uncomplicated cases, and to the details of the new method of treatment here proposed. This method is based upon 87 written observations, taken mostly upon transatlantic steamers, and it would seem, from my experience, that the sicker the patient was the more surely he would be cured.

The medicinal substances employed are atropin, strychnine, caffeine, sparteine and hyoscyamine; atropin and hyoscyamine are administered in conjunction with strychnine, the others alone. All these substances are not given to the same patient, but constitute as many varieties of treatment. Sea-sickness is cured either by atropin associated with strychnine or by caffeine held in concentrated solution by salicylate or benzoate of sodium, or by sparteine.

These substances are all administered by hypodermic injection. This mode of administration was chosen for the following reasons: The frequent vomiting in sea-sickness, by which the agents employed would be thrown out and lost; the difficulty of their absorption from the stomach in this affection, and also the retaining and destructive action of the liver upon these alkaloids when absorbed from the gastro-intestinal tract, as Hegar, Schiff, Lautenbach and others have amply shown.

First, as regards atropin and strychnine, I would remark that the dose for adults of these two agents, given subcutaneously in well-marked cases of sea-sickness, is 1 milligram (.001 grm.) of each (about $\frac{1}{64}$ of a grain). The following is the formula I have employed thus far:

R.	Atropin sulph.	
	Strychnin sulph. aa . . . . .	.04 grams.
	Aq. menth. pip.	40 "

A gram of this solution contains a milligram of each of the alkaloid salts. Although these eminently active substances have been administered in sea-sickness a great number of times during the last two years, no injurious effect therefrom has been observed. If, after the space of two hours from the time of the first injection, the patient is not cured, a second injection of 1 gram of the

¹ When there is *increase* in the number of pulsations it ought to be attributed to a coexisting paresis of the pneumogastric.

solution must be injected, but it would be imprudent to repeat this dose of atropin too frequently.

Children and adolescents are very susceptible to this medication. A little girl of $2\frac{1}{2}$ years, sick during fourteen hours, was promptly and definitely cured by the injection of one-sixth of a full dose, *i. e.*, by about .00016 grm. of atropin and as much of strychnine (about $\frac{1}{320}$ grain of these substances). A boy of 6 was cured by $\frac{1}{4}$ of a gram of the mixture.

The effects of this medication are often surprising. In the majority of cases of simple naupathia *the patients entirely cease vomiting immediately after receiving a single injection of 1 gram of this solution.* A little later they feel no more nausea, headache, or vertigo. More than this could hardly be demanded of any remedy. Sometimes two injections are necessary to produce complete exemption from all unpleasant sensations. The sufferer ceases groaning, color comes back to his cheeks, he affirms that he feels "much better," or that he suffers no more at all. Almost always he falls asleep shortly after receiving the injection and remains sleeping one-half or three-quarters of an hour. If given late in the evening the injection insures a refreshing night's sleep for which the patient is very grateful.

One of the best evidences of the efficacy and innocuity of this method is the fact that the patients often ask for a repetition of the treatment, and mothers who have been treated desire it applied to their children.

As regards caffeine I have experimented with it thus far in adults only. The following is the formula for the solution employed:

R. Caffeine pur.	4 grams.
Sodii salicyl.	3 "
Aq. destill. q. s. ad.	10 cc.

Dissolve by gently heating.

Each cubic centimeter contains .40 grm. of caffeine. A single dose of .30 grm. injected under the cutis completely cured in seven hours a patient who had been suffering intensely from seasickness during three days. Another patient in the same condition was cured in five hours. Both had remained in bed and had eaten nothing during the whole period of their sickness, but on the evening of the day of the injection they both went to dinner and remained well.

Certain *disadvantages* of the method exist, but are not of great importance. Dryness of the throat is sometimes caused by the atropin; young children may present an intense redness of the skin which alarms their parents and which is also due to the atropin, and the amblyopia caused by the alkaloid is occasionally observed in adults. Exceptionally the seat of the injection is slightly painful, especially in nervous individuals, and once troublesome inflammatory symptoms were caused by one injection under the skin of the outer border of the forearm, which subsided spon-

taneously, however, in the course of two days. I have never observed either abscess or phlegmon as a result of this mode of treatment. None of these phenomena have more than a few hours duration and I have never noticed any injurious effects therefrom.

If this method, conscientiously employed, produces no favorable effect upon a person affected with naupathia, who has not exceeded the age of adult life, it is almost certain that the failure is due to an organic lesion in some part of the circulatory apparatus, especially in the valves of the heart. A patient having well-marked mitral insufficiency received three injections in the space of six hours, each containing 1 millig. of atropin and 1 millig. of strychnine, without the slightest favorable result, the only change in the symptoms being an increase in the number (but not in the force) of the cardiac pulsations. It is well to remark, that if these injections produced no amelioration in this case they did not, on the other hand, occasion any aggravation.

This method has not yet been employed as a means of prophylaxis in sea-sickness. The two alkaloids exhibited in the form of pills, however, have successfully warded off this affection when taken immediately upon feeling the first approach of the nausea, and caffeine and atropin have also produced marked amelioration when administered together in the pill form.

Still other substances of the great classes mentioned above have cured sea-sickness in my hands. The sulphate of sparteine, which Professor Germain Sée has introduced into pharmacology as a cardiac agent, also produces speedy recovery. The formula I employ is as follows: Spartein. sulph. .40 grm., aq. menth. pip. 20 grms. Each cc. contains .02 gr., which is a common dose. The benefit after administration has been constant.

Another alkaloid—hyoscyamine, so nearly related to atropin, also cures sea-sickness when combined with strychnine. Formula: Hyocyanin. pur. cryst. .02 grm., strychnin. sulph. .02 grm., aq. menth. pip. 20 grms. Each cc. contains 1 millig. of each alkaloid.

Having thus exposed to your indulgent attention my own personal researches in this direction, allow me to briefly sum up the useful methods of treatment that others have imagined.

The means of prophylaxis are of two kinds, mechanical and pharmaceutical. Of the mechanical means the most useful is the abdominal supporter, a large bandage-like appliance covering nearly the totality of the surface of the abdomen and drawn up tightly enough to prevent much displacement of the abdominal viscera by the movements of the boat.

The choice of the steamer one sails upon is not indifferent. The larger the ship the less movement it has. In all cases one should seek a position as near as possible to the center of gravity of

the ship, for there the rolling and pitching is felt at its minimum. Further, it is well known that complete decubitus is the best of all positions, both to prevent sea-sickness from coming on and to aid its cure. One should lie in a horizontal position with the head on the same level as the body.

The *pharmaceutical means* for prophylaxis which are of real efficacy are few. Alcohol, liquors and wines are sometimes beneficial, but they are uncertain. Certain aromatic substances have been recommended, especially peppermint and its preparations. More potent, however, are the three following: chloral, cocaine, and antipyrin, the two latter being also used to cure the affection when once developed. These substances, like morphine, which has also been used, all act by diminishing the reflex power of the nervous centers, and we have seen above that the reflex action induced by the irritation of the extremities of the nerves of the abdominal organs is the starting point of sea-sickness.

As regards the *curative treatment* of naupathia little satisfaction has been obtained from the *materia medica* until quite recently. Some years ago, M. LeConiat, of the French Transatlantic Line, treated his patients by faradization of the epigastric and hypochondriac regions, aided by an external application to the gastric region of a solution of atropin (0.05 to 30 grm.). He affirmed having obtained good results from this treatment. More recently cocaine has been given and, I believe, with a certain success. Doses as high as 0.30 grm. have been given by Regnault, of Paris, but I esteem that quantity eminently dangerous. The latest remedy that has come to my knowledge is antipyrin. It is certainly very useful in those cases in which the patient *has not yet vomited*, but like all medicines given by the mouth in sea-sickness, it is little or no use after vomiting has once begun. The hypodermic method is then the only one that is sure, safe, easy and efficacious.

I also have tried these other remedies but I find none so effective as those used in my own researches. Allow me to cite two or three short observations by which the working of these agents may be judged.

OBSERVATIONS.

Caffeine.—Mrs. L., æt. 21, embarked at Bordeaux for New Orleans, Aug. 14, 1886. Aug. 17: The patient has been sea-sick ever since the departure from Bordeaux, three days ago. She has not left her bed during that time, and has eaten nothing. At 9.30 A.M. the following symptoms were observed: great prostration, intense frontal headache, gastralgia. Pulse 114 per minute, small and feeble. Rectal temperature 37.6° C. (about 99.5° F.).

Treatment. Subcutaneous injection of three-fourths of a cubic centimeter of the following

solution: caffeine 4 grams, salicylate of sodium 3 grams, water q. s. to make 10 cubic cm.; *i. e.*, a dose of .30 gram only of caffeine was employed. At 10 o'clock the pulse was down to 78 per minute, and was fuller. Patient feels better. At 11.40 pulse 75, and stronger; patient feels still better; suffers no more from cephalalgia nor from gastralgia. Rectal temperature 37.3° C. 4.30 P.M., pulse 90, and strong. Patient feels herself entirely well, although somewhat weak from abstinence. At the hour of the evening meal she ate with the other passengers and was not sick any more during the voyage.

Atropin and Strychnine.—1. Mrs. W., æt. 30, left Montevideo for Havre April 28, 1886. She had travelled by water and was always very sick. The next morning after the departure she was very sick while still in bed before attempting to get up. She presented abundant mucus vomiting at very frequent intervals, constipation, frontal cephalalgia, and moderate prostration; pulse 65, feeble. At 8.35 a subcutaneous injection of 1 gram of the following solution was given: atropin sulph. .04 grm., strychnine sulph. .04 grm., aq. menth. pip. 40 grms., *i. e.*, a dose of one milligram of each of the two alkaloids was injected. At 9 o'clock, *i. e.*, 25 minutes later, *she got up and felt no more nausea*. She felt herself well; the face was no longer pale as before, and there was no more headache nor prostration. 6.30 P.M., the amelioration has continued. She has dined very well and manifests no more symptoms of sea-sickness.

2. Paula X., a young negress, æt. 8, native of the Island of St. Vincent, one of the Cape Verde Islands, was one of our passengers to Buenos Ayres. She commenced to be sick as soon as she came aboard, and was terribly sick every day, so that she could keep absolutely no aliments upon her stomach. She lay down almost the whole time, vomiting at frequent intervals. This state of things continued during *six days* without her receiving any treatment, and by that time she had become so thin and feeble that the captain, to whom she was given in charge, became alarmed about her and asked me to apply my method of treatment. At 10 o'clock on the sixth day I gave her a hypodermic injection of one-third of a cubic centimeter of the solution of atropin and strychnine, *i. e.*, about .0003 grm. (or about $\frac{1}{2800}$ gr.) of each of these alkaloids. Three-quarters of an hour afterwards she ate and drank with great appetite. She kept everything upon her stomach, and from that moment she felt no longer sea-sick, but on the contrary she ate well and soon began to play. This is one of the most striking examples of cure that I have seen.

In conclusion, be our theory of the nature of naupathia as it may, the practical empirical fact remains, that this affection, once developed, is rapidly curable in the majority of cases; that the

judicious employment of the new method never produces serious accidents; that the method sometimes fails on account of some lesion of the heart vessels or nerves; but that *in simple sea-sickness it always produces amelioration, and generally a prompt cure of this affection.*

REPORT OF A CASE OF CEREBRAL CYST. RECOVERY.

Read in the Section on Surgery and Anatomy, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY J. F. PEYTON, M.D.,
OF STANFORD, KY.

Common experience, as well as the literature of surgery, teaches that wounds involving the brain heal readily when secondary inflammation does not take place, and because of the risk in this direction a prognosis must always be unfavorable, though many cases are on record after wound of this organ in which there was full recovery.

From punctured fractures of the skull involving the dura mater there is equal danger, because the dura is very sensitive and the projecting spiculæ irritate the brain at its every pulsation, and from this source there is inflammation of the meninges and death as a consequence. The surgeon usually makes as early efforts as possible for the removal of this foreign body, knowing the longer it remains the greater is the danger from the inflammation spreading along the cellular tissue which surrounds the branches of the meningeal arteries, and by this means reaching the base of the skull.

When meningitis ensues from a traumatism, with suppuration as a result, the hope of the patient is by letting out the imprisoned matter; and where those rare pathological entities, cysts, communicate with the cranial cavity, the operation of trephining is imperatively demanded, as in the case operated on by myself, and which, with your permission, I will briefly report.

John Proctor, of Mt. Vernon, Ky., æt. 22, received a blow upon the left side of the head in 1880, which produced a punctured fracture of the parietal bone—unconsciousness quickly ensued. Elevation of the depressed bone, by Drs. Brown and McKee, of that place, was next undertaken, for prudential reasons, till the end of the third day. This event was not followed by anything unusual, and after the lapse of eight more days the mind became clear and he progressed to apparent recovery without an untoward symptom. Three years passed, when he was seized with an epileptic convulsion, the seizures alternating as to frequency and severity. His attending physician desiring a consultation, I was called about the middle of October, 1884. We agreed as to depressed bone, the depression being one inch posterior to the coronal suture and the same distance from the mesial line in the temporal bone on the

left side. Trephining was at once done. The button removed was three-fourths of an inch in diameter, and from the center of this there projected a spicula one-fourth of an inch in length, and sharp, from the inner table. The brain tissues were firmly attached around the base and the anterior portion of this spicula, and with difficulty it was detached by the handle of the scalpel.

The appearance of the underlying tissues was granular, or cell-like, and highly vascular. The wound was dressed in the usual way, there was no recurring inflammatory symptoms and in a few days it was healed. He had no convulsion for six weeks, but at the beginning of the seventh he played a game of base-ball, the fit occurring on the grounds.

The convulsions having got a start, took place with regularity up to the time of the last operation (of which I will now speak), Feb. 11, 1888. Right well nourished and his functions generally in good shape, in consultation with Dr. A. W. Johnstone, of Danville, Ky., we concluded to do another trephining, and the second button was removed. An incision was made through the dura and the pia mater, when there was revealed a cyst as large as a guinea egg, and whose walls were almost transparent, with a congerie of small vessels traversing it in divers directions. By hooking the cyst with a tenaculum and making an incision through the cyst wall, a half-ounce of clear fluid escaped, the last to come being tinged with blood. The skin flap was in the shape of a horse-shoe, in consequence of the scars or cicatrices made by previous operations. Three drainage tubes were placed in the wound, an opening made in the center, immediately over the incision of cyst, and one tube included in the button-hole, but not extending through the membranes, nor into the cyst, by which device direct drainage was made. The other two tubes were passed through the same opening and were brought out at the upper and lower angles of the flap wound. There were no antiseptic solutions or precautions employed in the treatment of the case. Cleanliness and pure water were our weapons, and he got along beautifully till the close of the third day, at which time he had a fever of 105° F., his pulse was 140, respiration 45, the right arm paralyzed, and a stupor amounting almost to coma, which made the prognosis doubtful. The flap was at once reopened, the wound thoroughly douched in cold water, the drainage tubes well washed and replaced, and without further medication, in six hours the temperature fell to 100° F., the breathing became normal, the pulse 90 per minute, the mind clear, a desire for food, and the danger was passed. From the angles of the wound the tubes were removed on the fourth day, but the direct tube remained in its place till the evening of the eighth, at which time it was removed, though the discharge continued, more or less profuse, for

about three weeks. The result so far has been all that we could wish or hope for. He has had but one slight convulsion since the operation, which was on the night following this event. The mind and memory seem intact, his health is good, and at present he is following his daily vocation.

MEDICAL PROGRESS.

HYDATID CYST OF THE ORBIT.—At the Ophthalmological Society of London, December 13, 1888, DR. ROCKLIFFE brought forward a case of suppurating hydatid cyst of the orbit. The patient, a laborer aged 33, had first noticed an affection of the sight of the left eye in 1882. He had several attacks of inflammation in it, and the vision gradually deteriorated till, in April, 1887, he was quite blind with it. There was then marked protrusion, some ptosis, and the action of all the ocular muscles, except the external rectus, was very limited. Nothing definite was made out as to the condition of the orbit. Eighteen months later, having had more attacks of pain, the patient consented to an operation. An exploratory puncture with a scalpel having given no results, the orbit was more freely opened up and, the eye being removed, a suppurating hydatid cyst was found at the apex of the orbit. The rarity of the affection and the difficulties of diagnosis were briefly alluded to. MR. BRAILEY asked if there were hydatids in other parts of the body. In one case he had seen it would have been impossible to have made the diagnosis if the bosses caused by the development of hepatic hydatids could not have been felt. He thought that in Dr. Rockliffe's case the hydatid had developed in the substance of one of the ocular muscles. MR. HULKE had only seen three or four cases, and he thought an absolutely certain diagnosis could not be made. In one of these cases there had been suppuration. He did not see how suppuration could be caused by rupture of a daughter cyst. DR. ROCKLIFFE, in reply, said that the patient attributed the suppuration to a blow with a piece of iron. No hydatids could be found elsewhere. He thought it had developed behind the eye, and not attached to the muscles, for the patient had free movement in every direction.—*Lancet*, December 29, 1888.

HYGIENE OF THE EYES.—DR. LINCOLN, of Boston, in *The Annals of Hygiene*, formulates the following rules to be observed in the care of the eyes for school work :

1. A comfortable temperature, and especially let the feet be warm and dry.
2. Good ventilation.
3. Clothing at the neck loose ; the same as regards the rest of the body.
4. Posture erect ; never read lying down or stooping.

5. Little study before breakfast or directly after a hearty meal ; none at all at twilight or late at night.

6. Great caution about study after recovery from fevers.

7. Light abundant, but not dazzling.

8. Sun not shining on desk or on objects in front of the scholar.

9. Light coming from the left hand, or left and rear, under some circumstances from in front.

10. The book held at right angles to the line of sight, or nearly so.

11. Frequently rest by looking up.

12. Distance of book from eye about fifteen inches.

UMBILICAL HEMORRHAGE IN THE NEWBORN.

—DR. OTTO TRASS has reported a case, with some general remarks on the condition which produces it, in the *Berliner Klinische Wochenschrift*. Dr. Trass divides the cases into either spontaneous or traumatic; those produced by rupture of the cord, etc. In the latter case the hemorrhage easily ceases by the application of persulphate of iron and firm compression, but it is far otherwise with the cases of spontaneous umbilical hemorrhage. This affection is usually fatal with the newborn. From its analogy to scurvy and hemophilia he proposes the term "omphalorrhagia of the newborn." Out of 336 cases which Dr. Trass has found of record, there were only 3 where the hemorrhage spontaneously ceased, and the recoveries were only 3.2 per cent. That is to say, more than two-thirds of the cases have proved fatal.

Dr. Trass has concluded that the best means of treatment of these cases is to pass a threaded needle through the skin around the whole umbilicus and ligate it in mass.

A NEW USE FOR ETHER DURING ANÆSTHESIA.

—DR. H. A. HARE (*University Medical Magazine*, November, 1888), calls attention to the fact that very frequently during the early stages of the administration of an anæsthetic the patient "forgets to breathe," even before the ability to perceive peripheral irritation is lost. Even later in anæsthesia, when the breathing suddenly ceases, we are accustomed to use cold water externally and to slap the patient with wet towels. Such measures are generally called for hurriedly, and it is not at all uncommon for an exasperating delay to occur before the water arrives. The ether is always at hand, however, and I have found that in a large number of instances, both in man and in the lower animals, the free use of ether poured upon the belly causes so great a shock by the cold produced by its evaporation as to cause a very deep inspiration, which is often followed by the normal respiratory movements. This is, of course, a simple procedure, and one which has probably been used by others, but I have never seen it so employed.—*Coll. and Clin. Record*.

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SATURDAY, JANUARY 19, 1889.

THE YELLOW FEVER GERM.

The discussion on the yellow fever germ question bids fair to become acrimonious between Drs. FREIRE and GIBIER. DR. FREIRE so far has the last word, and in his reply to GIBIER he makes certain statements that must be somewhat embarrassing. FREIRE thinks it a little strange that GIBIER, who wrote to the *Academie des Sciences* on the 13th of February that it had not been possible to find the micro-organisms, either in the urine or the blood, should now claim to have found it in the alimentary tract. FREIRE opposes to the denials of M. GIBIER several authors who, with himself, claim to have isolated the microbe of yellow fever. He names REBOURGEON, and in Havana FINLAY and DELGADO; from the island of Salut (French Guiana) he adduces the testimony of DR. RANGE, whose experiments were published in the *Annales des Médecine Navales*, and he also quotes from a private letter from M. RANGE, who wrote him: "I have preserved many microscopic preparations of the poisonous liquid, cultures of the microbes, the blood, black vomit and pieces of different organs," and in describing the effects of his inoculation on animals he says: "The 'microscopical lesions which I have constantly found are in great part those which you have described in your work, and the inoculations of the cultures made on these animals have been in my hands, as in yours, productive of the same results.'" Having thus fortified himself by the corroborative experiments of M. RANGE, who, by the way, is a

medical officer of the French Navy, he brings forward the corroborative experiments of M. MAUREL, also an officer of the French Navy, who asserts positively having found a certain micro-organism in the blood of persons suffering from yellow fever. He also notes that both FINLAY and DELGADO made their observations from the same locality at the same time GIBIER reported adversely on the FREIRE claim. He further points out that CAPITAIN and CHARRIN found the micrococcus in 1884, that M. BABES found the micrococci in the tissues of the liver and of the kidneys of persons dead of yellow fever, and that M. GIRERD, the surgeon-in-chief of the Panama hospital, found the micrococci, with which he produced death in guinea pigs by inoculation.

M. FREIRE in his pamphlet pictures his micrococci, and so far as pictures go, the micrococci are the same when procured from the blood and from the black vomit, but it must be admitted the plates are diagrams only, as the objective power is not given with them, nor anywhere stated in the text.

FRANK BILLINGS who in the Nebraska laboratory has been making careful searches in the tissues of organs from yellow fever patients procured for him in Havana, has examined the "Reeve's germ," and pronounces it the same he previously described as found in the Southern Cattle Plague, the identical germ originally described by BABES as being seen by him in material sent by LACERDA from Brazil.¹

It now looks as if FREIRE was coming out first best after all, and surely no honor can be too great for him who can silence opposition by producing a microbe whose presence is constant, and can always be recognized by the use of the same methods. But no matter who shall establish his own claim, he must not expect to do so without meeting doubt, inquiry and perhaps injustice at first, and he must be prepared to meet it in good temper. Men are not usually allowed to shuffle the cards and cut them too.

The new quarantine authorized to be established by the Act of August 1, 1888, near Key West, Fla., will be on the Tortugas Keys, about sixty miles west of Key West in the Gulf of Mexico. It is contemplated by the Marine-

¹ Dr. Sternberg's opinion as set forth in an interview is elsewhere given in this issue.

Hospital Service to have a laboratory specially fitted up for the study of yellow fever, at the new Station. There are several islands at these Keys, and the laboratory can be easily isolated. Systematic and continuous research, will surely either corroborate the alleged discoveries of former investigators or make original discoveries. At any rate the attempt will be made.

THE SO-CALLED "CHRISTIAN SCIENCE."

"Animus tamen omnia vincet.

"Ille etiam vires corpus habere facit."—OVID.

One of those members of the Association from whom the Editor always likes to hear, for he is an enthusiast on the subject of increasing the membership, and takes interest enough to write now and then, his views on current medical topics, and to touch up certain enthusiasts *currente calamo*, writes us to urge an immediate raid on that misguided class of citizens known as "Christian Scientists."

But with all respect to our correspondent we do not think anything in professional experience in dealing with the insane would justify us in making an attack. Persons afflicted with mental maladies of that sort are to be treated with great sympathy, for like all persons acting under delusional impulses and hallucinations, they have the most profound conviction that they are right.

It is customary in certain interested quarters to speak of the origin of homeopathy as a natural protest against the polypharmacy of the age in which it was invented, and so far not an unmixed evil, but in fact it originated in the well-known opinion that a certain proportion of diseases if let alone get well of themselves. The notion that the "mind produces all the mischiefs of the body" is as old as Plato, and some of the ancients have left on record a tirade against the soul. DEMOCRITUS urged that *Damnatum iri animam a corpore*, and CYPRIAN said, "if the body should in its behalf bring an action against the soul, surely the soul would be cast and convicted, that by her supine negligence had caused such inconveniences, having authority over the body, using it for an instrument as a smith uses his hammer." If according to the ancients, the soul could cause bodily ailments, it was not a long leap to the conclusion that the soul or mind by governing the bodies could cure them. Here then we have the source of inspiration of the rule of "similars"—

and in truth it appears that the "Christian Scientists are only carrying out to the extreme limit that truly luminous ray from the similia, one might almost say a will-o-the-wisp floating direct from the ashes of HAHNEMANN.

But there are certain inconveniences attending the faith, that sometimes bring the victims to the eye of the public in a way that is a little startling; thus, the writer knows of a case, where a lady governed by such superstition lay for an entire week suffering from the pain of a fractured thigh, and the irritation from its lack of adjustment, and another case where a man died almost without notice simply because his family persuaded him that "Christian Science," through the medium of a certain practitioner of the art, would shortly cure him, but as a matter of fact it required the coroner to finally settle the nice points of the diagnosis.

The writer has heard a patient while suffering excruciating agonies, from a fractured thigh, told by a true believer in the "science,"—"Now then don't cry, rely on the Saviour, you know you won't have any pain if you only have faith!"

We are told that the blood of the martyrs was the seed of the Church, but we imagine the "Christian Science Church" will not flourish to any very alarming extent on the sufferings of its self-deceived martyrs. They seem to take very kindly to an old fashioned anodyne, after a more or less extended experience of the kind. So that whatever may be expected of the growth of this craze among the believers in the supernatural, the followers of practitioners of infinitesimal dosage and of the thousand-and-one "quips and oddities" that strut their brief period on the professional stage, its practice will be confined to those cases where the disease is itself spirituelle and attenuated. The REVEREND DOCTOR SWING, a well-known theologian, says this hallucination is not a "Christian" one, and all medical men know that it is not scientific, and we may therefore infer, the doctrine being neither Christian nor scientific, that it will be a long day before the practitioners of medicine become like the cross-roads tailor who was forced so hard by his competitors that he "he sewed for nothing and found himself in thread."

It is a patriotic duty to join the Association at once.

EDITORIAL NOTES.

DR. SWAN M. BURNETT.—The following paragraph we notice is making a quite extensive tour of the general newspapers:

Mrs. Frances Hodgson Burnett is being handsomely rewarded for her literary work, "Little Lord Fauntleroy" alone bringing her \$60,000 a year. Her husband practices medicine in Washington, and is a quiet man of studious exterior, who entertains a profound respect for his gifted wife.

The paragraph does scant justice to Dr. Burnett, who is one of the leading ophthalmologists of this country. He is also an able writer, a linguist and a gentleman, and altogether a fitting mate for the gifted authoress.

DR. WM. A. HAMMOND'S Sanitarium at Washington, D. C., was formally opened on Jan. 6 with half its rooms filled with patients.

THANKS TO CONTEMPORARIES.—Our thanks are due to those of our contemporaries who have published pleasant notices of the change in the editorial management of THE JOURNAL. So far as the new Editor is concerned, and he feels sure he also expresses the feelings of the late Editor, in returning our grateful thanks, and best wishes for the prosperity of the Editors of those publications. Special reference to them by name is omitted only from the fear of seeming to make too great distinction between so many clever gentlemen and excellent friends. Let us all continue to work with vigor for the increase of membership and power of the Old Association.

PURE CONFECTIONERY.—The following circular signed by fifteen confectioners of New York city, five of Cincinnati, five of Philadelphia, four of Boston, four of Chicago, two of St. Louis, and ten of other cities, has been issued. It is self-explanatory, and argues well for the public spirit of the manufacturers belonging to the Association:

The National Confectioners' Association of the United States. Its Objects and its Members.—The National Confectioners' Association was organized at Chicago, Ill., on April 23, 1884. The principal object of this Association is to raise the standard of confectionery, and exclude, so far as possible, adulterated goods. This work has been very successful. Since the first meeting in 1884, through the efforts and backing of the Association, stringent laws have been passed in the States of New York, Massachusetts, Ohio, Tennessee, Michigan and Pennsylvania.

The Association, at its Third Annual Meeting, held at the Burnett House, Cincinnati, May 12, 1886, indorsed the following resolution:

"This Association hereby offers a reward of one hundred dollars for evidence that will enable them to convict any person of adulterating confectionery with poisonous

or injurious substances—the Association assuming the cost and responsibility of prosecuting the offender."

Notwithstanding this reward and the vigilance of the committee, not a single case of injurious adulteration has been presented, which is strong proof of the almost complete extinction of mineral adulteration. Nevertheless, we desire the coöperation of the boards of health throughout the country, and earnestly request that any case of supposed adulteration that may come under their notice be reported to the Secretary, Martin Dawson, Chicago, Ill.

The Association feels well pleased with the result of their labors during the past five years, and are confident that their future work will redound to the benefit of the public and all legitimate manufacturers of confectionery.

We are also satisfied that no class of manufactured goods offered for public consumption are so entirely free from adulteration as confectionery.

THE BRITISH MEDICAL ASSOCIATION now has about 15,000 members of whom 543 are foreigners. Of the foreign members 65 reside in the United States.

OBITUARY.—DR. H. O. HITCHCOCK¹ died at his home in Kalamazoo, Mich., Dec. 7, 1888, æt. 61 years. For many months he had been gradually failing, so that his death was not a shock to his friends. He graduated at Dartmouth College in 1851, and in medicine at the College of Physicians and Surgeons of N. Y. in 1855. After spending some time in Bellevue Hospital he removed to Kalamazoo, Mich., and continued in active service till failing health prevented. Dr. Hitchcock had served as President of the Michigan State Medical Society, and was a member of numerous other medical organizations. He will especially be remembered by the people and the profession of the State for his active efforts in the establishment of the Michigan State Board of Health, and for his arduous labors in its behalf for several years thereafter. We shall all miss his genial face, his hearty pressure of the hand, the genial smile of warm friendship, and the eloquent advocate of justice and progress, as we gather this year at the State Society, or at the American Medical Association. Who will take up and carry on his work?—*American Lancet*.

SURGEON-GENERAL STEWART of the British Army Medical Department, died Dec. 5, 1888. He received his first commission in 1841, and served with the 29th Regiment throughout the Punjab campaign of 1848-49, including the passage of Chenab and the battles of Chillianwallah and Goojerat. The deceased officer was an ardent botanist and ornithologist, and was enabled during a long residence in India to make several valuable collections of skins and birds, which he gave to various museums at home and abroad. He was a member of the Council of the Zoological Society of London from 1885 till his death.—*British Medical Journal*.

¹ Dr. Hitchcock joined the American Medical Association in 1863.

SOCIETY PROCEEDINGS.

Suffolk District Medical Society.

SURGICAL SECTION.

Stated Meeting, Nov. 7, 1888

THE PRESIDENT, JOHN COLLINS WARREN, M.D.,
IN THE CHAIR.

DR. ROYAL WHITMAN read

A CASE OF MACEWEN'S OPERATION (FOR THE
RADICAL CURE OF HERNIA) IN A GIRL, RE-
SULTING IN THE CURE OF HABITUAL
INCONTINENCE OF URINE.

The patient, a girl æt. 11, was brought to him last spring on account of antero-posterior curve of the spine. Besides, she had a right inguinal hernia about the size of a small lemon, and there had been habitual incontinence of urine. On April 9, 1888, Macewen's operation was performed. The patient was about as usual on the eighteenth day without support, complete control of the urine having been established. Since then she has improved both mentally and physically.

DR. HAYWARD W. CUSHING presented

AN IMPROVED METHOD FOR THE RADICAL CURE
OF FEMORAL HERNIA.

The patient was a boy, æt. 12 years, and the hernia was of four years' duration. Operation May 14, 1888. A straight incision from Poupart's ligament over the crural ring to just below the saphenous opening, dividing the superficial structures, exposed the sac, which was found to contain omentum. The sac was adherent to the upper part of the saphenous opening. The incision was prolonged parallel to and a half inch above Poupart's ligament, and by dissection the sac was exposed, and could be freed until it became perfectly reducible. It was opened and the omental mass was ligated and cut away. A continuous suture closed the sac, which was folded on itself and fixed within the abdomen à la Macewen. The crural ring was next closed by suturing Poupart's ligament with a quilted suture to the pubic portion of the fascia lata and the fascia covering the pectineus muscle, the femoral vein being protected with a retractor. When secured, the opening apparently became impervious, the folded sac forming a pad, which was firmly fixed against the internal opening of the crural canal, while the suture tightly closed the external aperture. The pubic and iliac portions of the fascia lata, forming the margins of the saphenous opening, were next sutured in a manner similar to that by which Macewen causes the external pillar to overlap the conjoined tendon in the inguinal operation. Operation wound closed; no drainage; aseptic dressings.

The patient remained in bed two weeks, and on the twentieth day after the operation the wound was dressed for the first time. A narrow red line alone marked the seat of the operation, and the dressing was dry. An indurated mass could be felt just above Poupart's ligament, at the point where the sac had been secured. No tenderness. For the next four or five weeks a pad and bandage was worn, but its value is doubtful. This method combines the advantages of Macewen's pad with the additional security of an effective closure of the superficial structures.

DR. HERBERT L. BURRELL read a paper on

A FEW POINTS IN MACEWEN'S OPERATION FOR
THE RADICAL CURE OF HERNIA.

He had operated in eight cases, all of which had been successful so far as heard from. In two of them scrotal abscesses formed. In the others union was by first intention. They have been in adults and in children; complicated and simple. As to permanency of cure, a sufficient time has not elapsed to be sure. Personally, he felt that at least three, and better, five years, should have elapsed. The operation is an attempt to restore the inguinal canal to its normal condition, and then the placing of an intra-abdominal pad in apposition with the internal surface of the internal ring. It is distinctly and strictly an operation devised and applicable to oblique inguinal hernia. As applied to femoral hernia the operation is incomplete, in that it does not close the crural canal. Dr. Cushing's operation fills this gap.

The intrinsic difficulty in closing a hernial opening is the preservation of the cord and its accompanying vessels; and previous to Macewen's operation he had come to the belief that the only satisfactory way of absolutely closing the hernial canal would be to enucleate the cord and testicle, and close the inguinal canal by a direct attack upon its intra-abdominal surface. This operation he once performed on a priest, but on account of the necessary mutilation it is not applicable to the ordinary patient.

The indications which had governed him in advising Macewen's operation have been: uncontrollable by truss hernia; painful truss hernia; and in one case he operated where there was great mental depression associated with the hernia.

The following points of importance have suggested themselves to my mind as bearing on the technique of the operation: a, the finding of the sac; b, the isolation of the sac; c, the troublesome hemorrhage and manipulation of the tissues; d, the introduction of the sutures; e, the dressing; f, the question of wearing a truss.

a. The finding of the sac. The strictest anti-septic precautions have been attempted. An incision of 2 or 2½ inches is made directly over the extreme ring, great care being exercised to bring the incision directly over the middle of the loz-

enge-shaped opening and running in its direction. The wound is deepened until he met a rather thick white layer, which, on being divided, showed that he had entered a cavity, when he knew that the sac had been reached. He never attempted to isolate the sac without opening it; for the recognition of the cavity is the distinguishing point. Therefore the whole attention of the surgeon from the time he makes the primary incision should be devoted to the finding of the sac. This saves time. If he cannot readily find the sac he allows the patient to partially recover from the ether and the sac is quickly distended.

b. The isolation of the sac. Once in the sac he prepares it for restoration to the abdominal cavity. When adherent, he fills the sac, through the small opening, with iodoform gauze, and thus distended there is no difficulty in dissecting it from the cord and the adjacent vessels. When, however, the sac is filled with omentum, congenital cases directly on or about the testicle, one has a difficult, tedious dissection to carefully separate it from the testicle and return it to the abdominal cavity. Occasionally he has had to divide the omentum into various parts and return the carefully secured ends to the peritoneal cavity.

c. The troublesome hemorrhage and the manipulation of the tissues, both of which may be avoided by the packing of the sac with iodoform gauze.

d. The introduction of the sutures. This is one of the most difficult points in the whole operation, and he has found that he could place them most accurately by a Hagedorn needle in a good holder. After carefully separating the sac the whole length of the inguinal canal and for half an inch around the intra-abdominal surface of the internal ring, he placed a stitch in the very extremity of the sac and transfixed it through and through and brought it out, after traversing the inguinal canal, through the muscles of the abdomen, pulling up the sac inside the abdomen in much the same way that a Venetian blind is raised. This suture is not fastened in position until the end of the operation, but it is temporarily secured by a pair of pressure forceps. Then he carefully attempts to restore the valve-like form of the inguinal canal by stitching the conjoined tendon with strong silk or stout catgut to the aponeurotic structures of the transversalis, internal and external oblique. He usually places two, if not three sutures in position and, as he ties them, the assistant introduces his finger in the canal to determine how tightly he brings the parts together.

e. The dressing. The operation proper is finished when the inguinal canal has been closed. Lately he had dispensed with drainage, but after a thorough and effective flushing with a solution, 1 to 1,000 corrosive sublimate, the superficial wound is closed with continuous catgut sutures.

The dressing proper consists of six sterilized gauze pads $6 \times 8 \times \frac{1}{2}$ inches superimposed, covering the wound surface and the scroto-femoral cleft. This is held in place by a carefully applied gauze bandage 4 inches wide, just tight enough to steady the dressing in place. Over this is laid a piece of mackintosh with a hole in it for the penis. This is covered by sterilized sheet wadding. This is secured in position by a cravat gauze bandage, 6 inches wide and long enough to form a double spica bandage. Over this is another piece of mackintosh with a hole in it for the penis. This is secured in position by safety pins as necessary.

f. The question of wearing a truss. There is little doubt that the wearing of an ordinary truss after hernia operation is open to the objection that pressure on cicatricial tissue is usually followed by gradual absorption; but as he does not feel safe with nothing he has adopted the movable truss much as recommended by Pye, which does not exert any undue pressure on the cicatricial tissue.

DR. HENRY O. MARCY: The essentials of his (Dr. Marcy's) operation for the radical cure of hernia consist in the obliteration of the sac by its complete removal and the sewing up of the internal ring. It is necessary to dissect the sac. After opening it, the introduction of the fingers, in his experience, has been sufficient to guide in its dissection and to lift it away from the tissues. He does not care for the rough manipulation of the sac, for the very reason that it is to be removed. When freed up to the internal ring, it is sewed there, at its very base, by the continued double suture of tendon. Then it is cut off near the line of sewing, and the peritoneum is then, as he believes, left thoroughly smooth on its inner surface. There is no depression for the future catching of abdominal contents. The next step is the refreshment of the pillars of the ring. This is then sewed in the same way (double suture). Then he sews down upon the cord with the same suture as far and as carefully as judgment and experience will warrant. Then a third layer in the same way, closing the external deep tissues to make the external ring. Then the superficial tissues are closed with a *blind stitch* which approximates the edges of the wound without a vestige of stitch being in sight. Each step is done under careful antisepsis, and he generally prefers the 1 to 2,000 solution of corrosive sublimate for irrigation. In dressing the skin must be thoroughly dry before collodion will adhere. Dust iodoform with the iodoform blower and seal the wound by covering the parts carefully with iodoform collodion. Incorporate into this a few shreds of absorbent cotton. When dry the dressing is complete. Further external dressings are unnecessary. It is not necessary that the patient should be kept in bed after the first day, rest only of the parts locally being required. This is essential during the processes of repair, as in

all wounds. For several weeks care is to be exerted in the passage of the bowels for any strain. It is better, in the majority of cases, to omit the use of retention or supporting pads, as a truss, unless in very young patients, when Dr. Marcy found a seeming advantage derived from a light support in the use of the water pad truss, first introduced to the profession and sold by Dr. Nathaniel Greene, of the firm of Leach and Greene, of this city.

In illustration of the method Dr. Marcy exhibited a patient with the following interesting history: J. R., æt. 50 years, had suffered for the last six years from a large tumor in the right inguinal and scrotal region, at times entirely incapacitating him from work. On several occasions a considerable quantity of bloody fluid had been evacuated from the tunica vaginalis, always to recur. There remained a large doughy mass in the upper part of the scrotum, presumed to be omentum, at times complicated with symptoms of intestinal obstruction. The diagnosis had never been made positive, although he had been seen by a number of distinguished surgeons, malignant disease having been deemed probable. Operation August 29, 1888. Upon opening the tunica vaginalis, the testis was found diseased, and it, with the tunica, was enucleated and removed. The incision was carried as high as the internal ring, and an omental mass of fist size was freed from its attachment at the internal ring, sewed across with double suture and removed. The stump was returned into the abdominal cavity. The thickened peritoneal sac was dissected free and sewed across at its base in a similar manner. It was resected close to the line of suturing and returned within the internal ring. The cord was ligated, cut short and returned. The widely separated pillars of the internal ring were refreshed. With the finger in the ring a suture of kangaroo tendon was carried through the upper border, and in double continuous suture the pillars of the ring were closely approximated throughout. A second more superficial line of suturing was continued parallel to the first, knotted and cut short. The skin was approximated by a blind stitch, closing the external wound with no suture points appearing through the skin. The incision was sealed without drainage with iodoform collodion, into which was incorporated a few shreds of absorbent cotton. The scrotal wound was also closed in parallel layers by the buried kangaroo tendon suture, with the skin approximated as above described, and treated with an external dressing of iodoform collodion. Immediate union without suppuration followed, or even œdema. Upon exhibition the patient showed a linear cicatrix about 2 inches in length, parallel to Poupart's ligament. There is a firm resisting feel to the touch without impulse or coughing. The patient states that there is no tenderness or soreness, and he feels no discomfort in locomotion.

Dr. Marcy referred briefly to three other cases of cure operated upon since the date of the one exhibited, and also showed three specimens of the resected sac, and the omental contents, which in each case were so altered that its removal seemed advisable. The results in each case were equally satisfactory, and one patient, himself a physician, was allowed to be in an easy chair every day, and at the end of two weeks he took a short walk without discomfort.

Upon question, Dr. Marcy explained the stitch briefly as follows: The needle used is about eight inches in length, including the handle, and curved within an inch of the point to about a right angle. The eye is situated near the point of the needle and is proportionately large. Threaded, it is carried through the tissues to be enclosed, unthreaded, rethreaded with the opposite end of the suture and withdrawn, thus finishing the first stitch. The needle is introduced for the second stitch at a distance from $\frac{1}{3}$ to $\frac{1}{4}$ inch from the first, and the suture, in a similar manner, is then carried in double thread from opposite directions through the same opening. Stitches are repeated continuously in as large a number as may be deemed necessary. Without cutting the thread, a reverse line of suturing of the superficial tissues is made, thus closing finely in even continuous seam the suturing as desired. Dr. Marcy has used this suture with excellent results for many years.

DR. D. W. CHEEVER said: The inguinal canal in the male is the weak point. The operation would be easy enough if we could remove the testicle and close the ring. Ambrose Paré used metallic sutures in these cases, something as John Wood did later. I was rather discouraged by the result of Wood's operations which I did a good while ago. The introduction of antiseptic surgery has rendered possible a boldness we could not dream of before and has converted a secret and obscure operation under the skin to one of plain procedure. Wood's operation was to do subcutaneously much as Macewen does. The aim was to get invagination of the sack and to glue to the pillars of the ring by fibrinous adhesions. It was done by means of a wire. In many cases the result was suppuration. A long time ago Dr. J. B. S. Jackson said to him "Doctor you will never get a cure till you can obliterate the serous canal." In femoral hernia there is no serous canal. The cures by Wood's method in his hands were not more than four or five that he was able to trace. Buried sutures with wire he tried, but they were invariably cast out by suppuration. He had seen them remain a long time in tissues which you would suppose to be more irritable, *c. g.*, the larynx after thyrotomy, where he had left in buried sutures that were never thrown out. The operation for femoral hernia is exceedingly difficult by Wood's method. The difficulty is to approximate the walls which are rigid. In seek-

ing to invaginate the cribriform fascia, one practically invaginated nothing at all and forced together tissues which invariably ripped out afterwards under the sharp pressure of the metallic stitch. Dr. Cushing's method seems to complete the link of Macewen's operations, by rendering you able to invaginate, which you cannot do by any external methods about the crural ring. The wonderful safety of present processes of antisepticism in operating on these structures he could not speak too much of, because he saw so much trouble from the old methods—throwing out of sutures, suppuration, etc. He thinks the profession has too much lost sight of Dr. Wood's flat box-wood pad shaped like a horseshoe with one arm longer than the other. Wood's theory I believe correct, that when the cure of hernia depends on the lymph effused in a large plug, that the subsequent failure is due to the absorption of the lymph, and that the absorption is hastened very much by pressure, consequently that all trusses applied after operation are evils, yet he did not feel like giving them up and sought to diminish the pressure by the horseshoe pad.

DR. A. P. CLARKE said he knew Dr. Marcy's method very well. The first case was in 1870, and Dr. Marcy operated for him. It was a strangulated hernia. The patient was seized on Thursday and the following Sunday had stercoraceous vomiting. The operation was then performed with carbolic spray, and the canal was completely obliterated by the catgut sutures. The wound was dressed antiseptically with Lister dressings. The patient lived five years and had no return of the hernia from which she had suffered much for many years. The operation was done with great difficulty for she was subject to asthma and had a violent cough. She eventually died of pneumonia. More recently he saw Dr. Marcy operate on an old man for strangulated hernia. It was reduced after the incision was made. The tendon suture with the double stitch was used to occlude the ring. The cord was not obstructed nor strangulated afterwards, and there were no bad symptoms. The wound was sealed with the collodion dressing.

DR. A. T. CABOT said that last summer he had three cases of femoral hernia: one of radical cure and the others strangulated. In one the sac was in a dark mulberry condition. He did not like to return it and sutured the neck of the sac close to the inside ring and brought it together with several sutures. A few weeks later there was no recurrence. The other cases were done much like Dr. Cushing's method.

DR. RICHARDSON: How long did Dr. Burrell's operation last?

DR. BURRELL: At first about an hour. Now about half an hour.

DR. NATHANIEL GREENE said: The use of trusses after operation is simply a choice of evils.

There is no question but what the pressure of the truss is likely to weaken the cicatricial tissue and if any other device can be arranged that will retain the hernia it will be better. A bandage gives least support when it is most wanted, *e. g.*, when stooping.

DR. J. C. WARREN inquired whether Dr. Green had noticed any difference about people coming for trusses since antiseptic methods have been in vogue in operating for hernia.

DR. GREENE said he thought so. It is hardly time yet to get many cases after Macewen's operation, but it is an operation of which he had great hopes.

DR. M. H. RICHARDSON reported

TWO CASES OF LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY.

Case 1.—Tubal pregnancy. Rupture during the third week and hemorrhage into the abdominal cavity. Laparotomy. Recovery. This case illustrates the difficulty often met with of making a diagnosis in certain obscure affections of the abdominal cavity, as well as the advantage in such cases of early operative measures.

Mrs. P., *æt.* 37, was in good general health. No catamenial disturbances. Married when 17 years old. Had a miscarriage at the sixth month about a year after marriage, and since then has never been pregnant until present time. Last flow three weeks ago. On Sunday, July 1, having been in usual good health, she was seized suddenly in the night with severe pain in lower abdomen. Some relief the next day and then a return of pain with feeling of faintness, nausea and vomiting. Bowels moved three days before. On entering the hospital she had an expression of anxiety. Temperature 97°; pulse 80 and weak. Abdomen not disturbed. Some dullness on percussion in right iliac region, but no resisting tumor to be felt. On vaginal examination tenderness to right of uterus with an indistinct tumor close to uterus. The diagnosis was considered doubtful, although hemorrhage from some unknown cause was considered probable and an operation was commenced. Incision was made in the right semilunaris. On opening into the abdominal cavity there was a spurt of arterial blood, so profuse that it was suggested that I had cut an abdominal aneurysm, but clots soon followed. On examination the right Fallopian tube was found with an enlargement the size of a large olive, in which there was a rent admitting the finger-tip near the ovarian extremity, through which blood was rapidly flowing. The tube with its contents and the ovary was easily brought up and Tait's knot applied, after which the whole was removed with the actual cautery. The wound was then closed and dressings applied. The patient made a rapid recovery and was discharged well August 8. This was a case of ruptured tubal

pregnancy. She would have died of hemorrhage in a short time if nothing had been done.

Case 2.—Extra-uterine pregnancy; death of fœtus at about the sixth month; laparotomy at tenth month; recovery. Mrs. B., æt. 26, had always been well. Married nine years and had never before been pregnant. About September 1, 1887, she began to flow every day. About October 12 she began to have nausea and vomiting which was persistent and severe. Since there have been monthly disturbances with "quite a show most of the time." Felt motion about fifth month. After August 1 movements continued two months and then stopped. Twice she was apparently going to be confined but nothing came away. There was a large tumor of the abdomen, fluctuating and symmetrical. Vaginal examination showed that the uterus was not enlarged. June 22, 1888, she was operated upon at the Massachusetts General Hospital. He made an incision in the linea alba, through which he came down upon a vascular tumor with an apparent muscular wall and apparently everywhere adherent. An incision was made into the mass until he came upon a cyst, in which he could unmistakably feel the parts of a large fœtus. The cavity of the tumor contained a large quantity of a chocolate colored fluid. The placenta was found to be placed with its center opposite the bifurcation of the abdominal aorta, and was everywhere adherent to the intestines. It was soft and friable and a large portion of it was removed. Drainage was secured through the posterior cul-de-sac into the vagina. The patient made a good recovery.

DR. J. W. ELLIOTT: In this class of cases the mortality is high because there is danger of septic infection. The patient is usually infected before the operation is done. I would like to ask what was the final result in the second case?

DR. RICHARDSON: There was a very small sinus at the end of the abdominal wound. The vaginal tube was left in a few days. There was constant irrigation. The temperature immediately fell, and remained a degree or two below normal.

DR. S. N. NELSON asked how much, if any, of the sac was removed?

DR. RICHARDSON: None of the sac was removed, and only about one-third or one-half of the placenta was removed. Any further attempt at removal would have been bad practice. He would like to ask Dr. Elliott if he means auto-infection when the fœtus is dead.

DR. ELLIOTT: There are two classes; a, when the fœtus dries up and becomes stone, when generally there is no reason to interfere; b, when the fœtus becomes macerated. In this class I do not know what starts this course, but infection comes and death by septicæmia. They are favorable if the sac can be opened without opening the general peritoneal cavity.

DR. JOHN HOMANS: The point of these cases is, early recognition, then operate, and the high mortality would be lessened. It is doubtful if there is a true abdominal pregnancy. They are either tubal, tubo-ovarian, or tubo-uterine.

DR. NELSON said that he had seen a case recently that was somewhat similar to Dr. Richardson's case 1. The patient was about 35 years old and the mother of two children. She had not been pregnant for seven years, since when menstruation had been irregular. She suffered from indefinite abdominal pains with nausea and sinking at the stomach. There was a slight uterine flow, which for the most part confined her to bed for four weeks prior to death. The breasts were soft and flaccid, the abdomen slightly tender on pressure, the uterus somewhat enlarged and slightly retroverted, but easily movable. No enlargement to be felt about the uterus by very careful examination, and extra-uterine foetation was dismissed from the discussion. She seemed to improve gradually until, the night before death, she was seized with the most excruciating pains, resulting in collapse. When seen she was *in extremis*. The autopsy showed the abdomen filled with clotted blood, which had escaped from a ruptured sac of extra-uterine foetation in the right iliac region. This, on dissection and removal, was found to have originated in the fimbriated extremity of the right Fallopian tube. The sac was about 2½ inches in diameter and contained a fœtus about four inches long.

DR. RICHARDSON, in closing the discussion, said that Tait has reported 35 cases of operation for extra-uterine pregnancy, with two deaths and a number of viable children. In an acute abdominal case, when the woman is in a serious state of collapse, with low temperature, there is probably hemorrhage which requires interference; with a high temperature, there is probably perforation, and again interference is necessary. Do not delay at all.

DR. ROYAL WHITMAN presented

A CASE OF APPENDICITIS IN A CHILD. OPERATION. RECOVERY.

On Saturday, July 16, 1888, a boy, having been in perfect health, on awakening after a restless night, complained of pain in the right side and difficulty in moving the right leg. On Sunday he was worse. An enema was followed by two free movements of the bowels. On Monday the abdomen was not markedly swollen or tympanitic. The right inguinal region was extremely sensitive to pressure, dull on percussion, and on palpation a round, hard tumor about the size of an orange was apparent. Pulse 110. Temperature 101°. Thursday he was worse; pulse 120, temperature 102°, the abdomen swollen and tympanitic, and the tumor was somewhat larger and better defined. A large enema had brought away foul-smelling

shreds and white matter, which had been thrown away. A history of spontaneous opening of the abscess. The tumor showed no change in outline. The patient was drowsy and stupid, and so much worse that an operation was performed. On opening the abdominal wall, the adherent wall of the abscess was opened and about an ounce of foul pus evacuated. The cavity was carefully washed out with hot water and a seed, apparently of an orange, came away. Drainage tubes were inserted and the cavity packed with iodoform gauze. The temperature fell at once to normal. The packing and tubes were removed on the fourth day. He was practically well sixteen days after the operation.

In discussing the case DR. A. T. CABOT said the appendix is a trap which serves to catch many substances. He had seen three different cases in which pins were discharged from the region of the cæcum, after intervals of three to fifteen years after the pins had been swallowed.

DR. RICHARDSON: In cases of appendicitis we should operate immediately if we want to do any good. Even then the prognosis is bad. In any case where there is a tumor and no general peritoneal infection, it seems to me that one is not justified in waiting if the symptoms are getting worse, if the temperature is rising or if there is any evidence of general peritoneal infection. Objections are made to operating because so many get well without any operation. This is true, but they all belong to that class of cases where the general peritoneal cavity is not easily infected, where the vermiform appendix is sealed anatomically behind the cæcum and out of the way of the general peritoneal cavity. Each case must be judged on its own merits. It is very difficult to lay down any rule.

American Medical Association.

Section on Dermatology and Syphilography.

L. DUNCAN BULKLEY, M.D., CHAIRMAN.

F. DUNLAP, M.D., SECRETARY.

(Concluded from page 61.)

DR. FRANK WOODBURY, of Philadelphia, read a paper entitled

BRIEF NOTE ON TWO CASES OF PRIMARY,
DIFFUSE, EXFOLIATIVE DERMATITIS
(PITYRIASIS RUBRA.)

(See page 81).

DR. REYNOLDS, of Chicago, said he had only seen two cases. One of these, a man 50 years of age, in the Cook County Hospital, was red over his entire body, the surface discharging some

moisture at times. The disease was ultimately fatal. The other was a farmer over 60 years of age, in whom the disease had existed about a month when first seen. There was almost universal redness, and scales were shed in great abundance. There was œdema of lower extremities, but no discharge or moisture of the surface of any consequence. There was some itching. He was treated with laxatives and tonics internally; ointments and mildly stimulating lotions externally. He had almost completely recovered when last seen. He was disposed to regard this, however, as a case of eczema. He thought it was in certain cases almost impossible to draw the line between this disease and eczema. The only distinctive features which pityriasis rubra is said to possess are: First, the presence of universal redness; second, little itching; third, absence of moisture; fourth, fatal character. In regard to the first symptom, he knew no reason why an eczema might not assume an almost or quite universal character. In regard to the absence of itching, in some cases of eczema the itching was not necessarily great. As regards the absence of moisture, it was not claimed by Dr. Bulkley and others who had reported cases that moisture was necessarily absent. And lastly, in regard to the characteristic of fatal termination, there was no reason why an eczema, if universal and persistent, which it might be under certain circumstances, need not ultimately prove fatal. All this being the case, what was there left to distinguish this disease as entirely separate and distinct from eczema?

DR. BULKLEY said he had seen a number of cases. Two in Vienna, one in Paris, and two or more in this country.

We must be very careful in the diagnosis of pityriasis rubra if the case does not fulfill all the characteristics of the disease. We see a universal eczema which is erythematous in character, and also a more or less general dermatitis, often of artificial causation and more or less brief duration, both of which should be differentiated from the disease in question. Itching may be a feature in dermatitis exfoliativa, but it differs from the itching of eczema, being very much less intense and distressing.

In 1883 two patients with this complaint, a woman æt. 49, and a child of 13 years, entered the New York Skin and Cancer Hospital, and have remained there ever since, and are even worse than when admitted in spite of faithful treatment.

When first brought in the child was emaciated, the knees were drawn up, the hands flexed, and the entire surface of the skin red and desquamating freely. The woman had also the whole body affected, and at times had almost intolerable itching. Both have lost their fingernails, there being only a shapeless mass of imperfectly-

formed, soft nail tissue near the root of the nail, the ends of the fingers and thumbs being pulpy and soft.

The exfoliation has in both cases affected the rete to such an extent that there is no tendency to the formation of an epithelial covering. Both have what could be elsewhere called a moist eczema on certain portions, which will be at times replaced by the same red, desquamating surface that affects the rest of the body. The point to be emphasized is that the disease may at times itch, and may show moisture, and yet be rightly regarded as an exfoliative dermatitis, quite distinct from eczema. The speaker regarded the affection as a neurosis. He hoped eventually to have an autopsy, and expected to find lesions of the cord. The woman had derived comfort, and it was thought, benefit to the skin condition by the application of an ice bag to the spine twice daily.

In the treatment every thing had been used that could be suggested. At present both patients keep the surfaces covered with an ointment of carbolated petroleum plastered on with a brush, which gives more relief than any other application which has been employed.

DR. RICKETTS, of Cincinnati, said that he had seen seven cases of general and partial exfoliative dermatitis, some simple dermatitis and others eczema.

Two of these cases of pityriasis rubra were those referred to by Dr. Bulkley, observed while interne in the New York Skin and Cancer Hospital; two others were in the series of Dr. Fox, one in a man of 38 and the other a girl of 11, in both the eruption followed attacks of psoriasis, and in the latter case it resulted from an application of an ointment of chrysarobine.

The fifth case was that of a girl 3 years of age, where at least five-sixths of the entire skin was affected; the sixth case was in a man 35 years of age, the exfoliation being general, it followed an attack of rheumatism and lasted but a few weeks, and was thought to be simple dermatitis. The seventh case was in a woman 23 years of age, affecting the cheeks and neck, and was really more of an eczematous nature.

In all of the cases mentioned except two, there were present all of the prominent symptoms of pityriasis rubra, viz., redness, scaliness, and itching. In the two exceptions the exfoliation was partial, redness was hardly perceptible, but scaliness and itching seemed to be relative to the amount of surface affected.

From the fact that all but two have recovered within three or four months, he was inclined to think that those that recovered were not pityriasis rubra, but eczema and simple dermatitis.

As to treatment, the application of carbolated olive oil and starch had given better satisfaction than anything else that he had tried, in connec-

tion with constitutional treatment, in the way of tonics, iron, arsenic, phosphorus, etc.

In the two cases of Dr. Bulkley, Dr. Ricketts had applied the thermo-cautery in the region of the spine, once a day for two weeks at a time, and had gradually increased the amount of carbolic acid to 40 grains per day, but had received no benefit *from either*.

DR. C. E. CALDWELL, of Cincinnati, said he had seen but two cases in the clinic of Kaposi, in Vienna, and in one of these cases, the recollection of which is rather indistinct, there were some doubts as to the diagnosis. His recollection of the anatomical and clinical features of the other case was very vivid, but he could not remember the age of the individual. There were present in this case moderate itching and a constant feeling of chilliness and shivering, so that the patient was obliged to wear a blanket. There was present at the same time an old man with eczema universale chronicum, whose case, on account of the universal dissemination of the disease, with the absence of moist areas, resembled greatly one of pityriasis rubra. The chief difficulty in the diagnosis of this disease, was perhaps, in the rarity of its occurrence, Hebra having seen only fifteen cases, and Kaposi, up to 1882, only six cases. It was also rare to see cases in their inception owing perhaps to the mildness of the earlier symptoms. In the case mentioned there were contractures of the skin preventing extension of the fingers. There was also in these cases a slight rise in surface temperature.

The treatment in these cases was: Tonics and arsenic internally, with the application externally of fatty ointments, and Hebra's modification of Wilkinson's ointment. The continuous water-bed of Hebra would be indicated in the latter stages, where chilliness is complained of, were it not for the length of time it must necessarily be employed.

DR. RAVOGLI had seen two cases. Both died with pneumonia. The patients were not greatly annoyed with itching, but the skin was very tight and painful about the joints on account of fissures. Both patients were men, one aged 40, the other 22 years. In the older the disease had existed about seven years; in the younger about five years. Furrows existed, showing atrophy of the skin. No remedy improved their miserable condition. Arsenic was used freely, but was of no avail.

THE effects of the "Scotch Oats Essence" Company, in New York, were sold on December 7, by the Sheriff. Sixty-three gross of "Scotch Oats Essence" realized about four cents a bottle, the retail price being one dollar a bottle. —*Boston Journal of Health*.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Suicide of a Monomaniac—Multiple Wounds—The Cæsarean Operation in Germany versus Induced Premature Labor in France—Saving the Infants—Linear Electrolysis in Urethral Stricture—Camphorated Naphthol.

Dr. Langier lately brought to the notice of the Academy of Medicine an extraordinary case of suicidal monomania. It was that of a woman, æt. 63, who was found dead in her room, without any trace indicating struggle or the intervention of a murderer. The wounds to which this woman had succumbed were so numerous and of such nature, that it seemed at first impossible to believe that she had inflicted them herself. The autopsy demonstrated on the contrary in the most manifest manner, that it was not a case of assassination, but suicide. Dr. Langier established on the body, independently of twelve cuts involuntarily inflicted on the palm of the right hand, 142 wounds by a sharp and cutting instrument, 136 were more or less profound in the external soft parts, but the other six, situated in the neck and in the peri-umbilical region, were all necessarily mortal. The author of the note added that it would be difficult to find a more striking example of the determined and destructive mania, and at the same time of insensitiveness to physical pain, in a lunatic.

Dr. Budin, who has been temporarily appointed to the charge of the Clinique of Accouchements, lately delivered a very interesting lecture on the pros and cons of the Cæsarean operation and the induction of premature labor in certain cases of narrow or deformed pelves. He began by observing that this question presents a great practical importance, as there exists in the profession two tendencies, radically opposed to each other.

In Germany, the accoucheurs are now more and more in favor of the Cæsarean operation, and they have been encouraged by the results obtained. These results are due to the progress of antisepsy, and the perfecting of procedures. In France, the induction of premature labor is preferred, as by this means we are permitted not only to bring a child into the world, but with the improved system of treating premature birth by artificial heating (couveuse) and feeding, many an infant has been saved. As to say which of the two methods is to be commended, the future will decide. Several authors, M. La Torre among others, have taken part in the debate.

M. La Torre, in a very important work on the development of the fetus in women with deformed pelves, has pronounced against the cutting operation. He has collected statistics which may per-

mit one to prejudge the future decision. With the Cæsarean operation performed by certain practitioners, the mortality appears to have come down to 19 per cent. With premature labor, it may be said to be *nil*; the women may be saved in the proportion of 100 per cent. Dr. Budin remarks that we may already conclude that, notwithstanding the success obtained by emerited operators, the Cæsarean section remains an operation very grave, and even in those who do not succumb the woman is subject to certain distant dangers due to the uterine and abdominal cicatrices.

As regards the infants, Dr. Budin thinks that, with the Cæsarean operation, all should be saved. Some, however, do succumb, and that in the proportion of 9 per cent. according to the statistics of M. La Torre.

Premature confinements, with the "couveuse" (brooding cradles) and "gavage" (artificial feeding), have given the following results: At 6 months, there were saved at the Maternity Hospital 22 per cent of infants; at 7 months, 38 per cent.; at 8 months, 89 per cent.; at 8½ months, 95 per cent.

Dr. Budin concluded his lecture by observing that the two methods are quite distinct. It is true that, with the new procedures, the Cæsarean operation and the statistics will be improved, but we shall never arrive, as with premature confinement, at a mortality almost *nil* for the mother. Moreover, the Cæsarean operation can hardly be practiced except by a few accoucheurs of long experience and well prepared in every way, and those who do not fulfil these conditions should be forbidden to undertake such a grave and delicate operation. The induction of premature labor is, on the other hand, much more easy, and all practitioners should know how to treat infants born before term.

Dr. J. A. Fort, a professor ex-officio of anatomy and surgery, has a private clinique in Paris which is well attended, particularly by patients suffering from diseases of the urinary organs. A work on the treatment of stricture of the urethra by linear electrolysis was lately presented for the author by Baron Larrey to the Academy of Medicine. In this work Dr. Fort undertakes to point out the advantages that this new procedure possesses over internal urethrotomy, dilation and divulsion which are employed for the cure of stricture of the urethra. Electrolysis performs the cure, and the operation by this means is absolutely inoffensive, whereas urethrotomy is a dangerous operation often giving rise to fatal accidents. The treatment with the electrolyser is practiced without previous dilatation, or any other preparatory treatment. The operation is performed without causing any pain, and in a lapse of time which rarely exceeds five minutes. With this urethral electrolyser, the narrowest strictures may be operated on at once, unless they are insur-

mountable. The operation is never attended with hemorrhage, nor followed by accidents. It does not necessitate any immediate treatment, and the patient may follow his occupations without inconvenience. Relapses occur much less frequently than by urethrotomy.

M. Desesquelle, an interne of pharmacy, has published the following note in the Archives de Pharmacie on Camphorated Naphthol. According to the author naphthol alpha and naphthol beta possess identical properties. If to 10 grams of naphthol beta, 20 grams of camphor be added a liquid is obtained which is syrupy, colorless, insoluble in water, miscible in all proportions with fixed oils. To ensure the rapid liquefaction, it is necessary that the substances should be previously finely pulverized. It is suggested that this mixture should replace carbolic acid, as the antiseptic power of naphthol is superior to that of phenol and its degree of toxicity is more feeble, as established by the experiments of Professor Bouchard.

A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

The Use of the Forceps after Version—Unique Case of Extra-Uterine Pregnancy—Trouble at the University Medical School.

At the last meeting of the Section on Obstetrics and Gynecology of the Academy of Medicine, Dr. H. C. Coe read a paper on "The Immediate Application of the Forceps to the After-coming Head in Cases of Version with Partial Dilatation of the Os;" the object of this procedure being the saving of infants' lives which at present are usually sacrificed.

He desired, he said at the outset, to call attention to a single condition in which the forceps should be at once used in cases of version, and did not wish to be understood as advising their general use after version, or even the immediate delivery of the child. The following illustrative cases were cited:

Case 1.—Primipara, æt. 35, with slight contraction of the anterior conjugate diameter. Patient very anxious to have a living child. Labor was induced near term on account of albuminuria and threatened eclampsia. Version was performed, and the head was so tightly grasped by the cervix that it could not be extracted until the forceps were applied. When this was done it was readily delivered, but it was then too late to save the child. The perineum was torn through the sphincter, but healed with primary sutures.

Case 2.—Multipara, æt. 35, with slight narrowing of the anterior conjugate. Several dead chil-

dren had been previously delivered by the forceps applied high up, and she was greatly desirous of a living child. Version was performed, and the head was arrested by the partly dilated cervix. The forceps were applied after vain attempts at manual extraction, and the child was then rapidly delivered, but could not be resuscitated. No laceration of the perineum.

Case 3.—Primipara, æt. 16. Eclampsia of an unusually severe type occurred, and labor was induced. Great rigidity of the soft parts. Version having been performed, the head was arrested, as before, and time wasted in attempts at manual extraction. It was finally delivered with the forceps, but the child was dead. Laceration of perineum nearly through sphincter; healed with primary suture.

Case 4.—Multipara, æt. 38, with hydramnios and fatty heart. Labor induced near term. There were atony of the uterus and serious cardiac disturbance, and the action of the fetal heart was very irregular. Version was proposed, and the head was grasped by the cervix. The forceps were applied after a loss of several minutes, and the child was resuscitated, but died in convulsions a few hours later. Superficial laceration of the perineum. In this instance the fetal head was large and unyielding, the fontanelles being nearly closed. In all the cases the mother made a perfect recovery.

Judging from these cases, Dr. Coe inferred that many children might be saved under these circumstances by the immediate application of the forceps. The reduction of infant mortality he thought was especially important in private practice, and it was this class of patients, in whom the accoucheur was most frequently obliged to perform version, who were most anxious to have living children.

The application of the forceps, he went on to say, did not present special difficulties. The perineum might be badly torn, or the cervix lacerated, in consequence of the rapid delivery; but patients would gladly overlook such accidents if the child's life was saved by the physician's prompt action, especially if former children had not survived.

In conclusion, he called attention to the fact that in the cases reported (two of which occurred in private practice), the operator had had skilled assistants and nurses and possessed experience in this class of cases, and yet had been unsuccessful. Under similar circumstances, therefore, he would advise that not a moment should be lost in attempts at manual extraction, but that the forceps should be applied as soon as the fact was recognized that the constricting cervix did not yield.

It was on this occasion that Dr. J. P. Tuttle read the report of his "Unique Case of Extra-Uterine Pregnancy," in which the fetus was delivered intact *per rectum*. In presenting it he said that the case suggested some of the difficulties, not to say impossibilities of diagnosis met with,

and also illustrated the complications of certain methods of treatment much lauded at present in ectopic gestation.

The patient was a lady of 35 who had been married eleven years, but never been pregnant. Dr. Tuttle was called to see her March 26, 1888, when he learned that for several years she had been treated by various methods for "falling of the womb." For some time past she had been troubled with nausea and loss of appetite; though it was stated that she had always had a delicate stomach. She had missed her last menstrual period, due March 13, and this was attributed to the blizzard weather of that date. Digital examination showed the uterus to be slightly enlarged, well down, and apparently retroverted, or with posterior mural fibroid; the use of the sound for the purpose of making an accurate diagnosis being contraindicated on account of the possible existence of pregnancy. There were great peri-uterine tenderness and heat about the parts. The right ovary was enlarged and tender, and the left could not be felt. The diagnosis made was pelvic cellulitis and ovaritis of right side; possible pregnancy.

Two days later he saw the patient during a paroxysm of pain, which was referred entirely to the rectum. It was apparently due to a spasm of the sphincter of that organ, and was promptly relieved by cold applications and the lifting up digitally of what he supposed to be an enlarged, retroflexed and gravid uterus. An examination under anaesthesia was refused, and the patient, who was not disposed to accept the theory of pregnancy, requested that she should be treated with electricity, which she said had formerly been successfully used in her uterine troubles. Believing that this was not the proper method of treatment under the circumstances, he surrendered the patient to an electro-therapist of the eclectic school under whose care she had been before.

April 23 Dr. Tuttle was again requested to take charge of the case. She was very weak and unable to retain anything on her stomach, and as she was still flowing from a menstrual period which had come on after an electrical *séance* several days before, an examination per vaginam was deferred. He afterwards learned that after this *séance* she had had a severe hemorrhage lasting for two hours. At the time she told him that she had had a painful menstrual period lasting six days, during which she passed large pieces of black blood, and having a slight flow, which still continued. Altogether the flow lasted for six weeks, and this led him to believe that an abortion had been produced, and an islet of placenta left adherent.

Two days later the patient was in a much better general condition, and an examination revealed the following state of affairs: Continued vaginal heat and tenderness in peri-uterine pelvic tissues; uterus enlarged to 5 inches, slightly movable, in

fair position, inclined somewhat to right side; a large round hard tumor mass between uterus and rectum, not particularly sensitive, closely attached to the uterus and movable with the latter; believed to be a fibroid, or possibly a hæmatoma. The hot douche, boroglyceride tampons, and general constitutional remedies were employed for some weeks with fairly successful results, and the patient thought she was getting well.

Later there was considerable uterine hemorrhage, which was controlled with some difficulty, and the tumor, which did not seem to increase in size, sank lower in the rectal fossa, causing retroversion and difficulty in defecation. The hemorrhage finally ceased altogether, and on June 25 he found that the tumor presented slight symptoms of softening or breaking down. He prepared to put an aspirating needle into it within a short time, but the next day he was hastily summoned to the house, where he found a fellow practitioner who had been called in in the emergency, delivering a fœtus from the rectum of the patient; severe griping pains having followed the use of a cathartic the night before. The rent in the wall of the rectum was perpendicular and as straight and clean-cut as if made with a knife. It was $2\frac{1}{2}$ inches in length and about $2\frac{1}{2}$ inches above the anus. The cord was intact, but was atrophied, and it became detached from the placenta by the slight traction required in using it as a guide in reaching the latter. The placenta not following the child, the patient was etherized and an attempt made to remove it, but this had to be abandoned on account of the hemorrhage it excited and the weak condition of the patient. The cavity was therefore tamponed, in the hope that the placenta would detach itself or degenerate and come away gradually, and this procedure was followed by nearly fatal exhaustion, from which she rallied, under energetic treatment, in the course of two or three hours.

On June 28 the placenta was found plugged tightly in the rent, but the slightest attempt to remove it brought on a condition of severe shock. About 7 A.M. on July 1 she complained of a sinking sensation and had Dr. Tuttle summoned. He at once recognized that she was sinking from hemorrhage, although the placenta was still plugged in the rent and no blood was escaping into the rectum, and she died in about an hour. As no autopsy was permitted, the attachment of the placenta remained uncertain, but he thought it probable that it was to the left tube or ovary, from the absence of the latter in its accustomed place and from the position of the placenta to the left of the median line.

He judged that the cyst containing the child had probably burst into the cavity or folds of the broad ligament, and that but for the severe straining produced by the patient's self-inflicted catharsis, it would have proceeded to the usual result in

such cases, viz.: decomposition, abscess formation with its concomitant constitutional symptoms, rupture and discharge through the rectum or vagina. It was noticeable that there were never any of those colicky pains usually met with in ectopic gestation, and that the symptoms of pregnancy had almost totally disappeared when the patient came into his hands a second time. In fact, the symptoms were those of a simple uterine fibroid or hæmatoma, indicating that the death of the foetus had taken place before this time; and it was his opinion that this had been brought about by the electrical treatment employed. The case was of interest, therefore, he thought, as illustrating the dangers of electricity in extra-uterine pregnancy and the darkness in which we were afterwards left. The specimen was then exhibited, and it was apparently a four months' foetus.

Since the Christmas holidays several of the students of the University Medical School have been suspended for creating disturbances because Dr. F. D. Weisse, who for several years has held a professorship in the Department of Practical and Surgical Anatomy, was not made Professor of Anatomy in the place of Dr. Lewis A. Stimson. Dr. Stimson was recently appointed to the Chair of Surgery, made vacant by the resignation of Dr. J. Williston Wright, and the Faculty announced at the same time that the Professorship of Anatomy would not be filled during the present session. Dr. George Woolsey, a graduate of the College of Physicians and Surgeons, who for the past two or three years has been studying in Europe, is at present giving the lectures on Anatomy under the direction of Dr. Stimson, and Dr. H. S. Haynes is lecturing on Practical and Surgical Anatomy in the place of Dr. Weisse, who has resigned and been relieved from duty.

Dr. Alfred L. Loomis has been elected President of the New York Academy of Medicine.

P. B. P.

LETTERS.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith.

An Unpublished Case in the Practice of the great Piorry.

To the Editor:—Piorry was in the full tide of his reputation in 1853. His demonstration of the value of percussion as a means of physical exploration had then placed his name high on the roll of honor in his profession. His skill in detecting pathological conditions and changes through this process was almost magical. It was my good fortune to be present on one occasion when he demonstrated his masterly powers in this field.

At the Hospital La Charité, Paris, I found him one morning surrounded by physicians and students and engaged in examining a young girl of 15 or 18 years. The patient was lying in the prone position while her back, over the region of the kidneys, was covered with a surface of adhesive plaster. He was examining the right kidney. After percussion over a small area above the kidney he made a pencil mark upon the plaster at the border of dulness. On continuing the percussion several marks were made at short intervals and these marks were finally united by a line drawn from one to another, thus forming nearly a circle. The circumscribing line represented the outline of a kidney beneath of enormous proportions. The diagnosis of an organ so largely in excess of what would be regarded as normal largely trespassed upon our credulity. The idea of exaggeration naturally suggested itself. At this time I had no thought that the actual facts in the case would be revealed—that this diagnosis would be either verified or disproved.

I did not see this patient again for several days, and on the next occasion it was under very different circumstances. The body laid upon a table prepared for post mortem examination. As students in pathological anatomy under interne Leudet, of the hospital, I, with three of my compatriots, found the body of the young girl awaiting our examination. Notwithstanding the great skill in diagnosis possessed by Piorry, we believed that we had before us the evidence which would disprove the strange diagnosis which had been asserted with so much assurance by the latter. But we were mistaken. The kidney on the side so carefully examined was found to be fully the size outlined by the great master. On the opposite side, over which he had not carried his searching examination, we found a contracted kidney no larger than an English walnut. In this kidney was a beech-nut shaped calculus having its point wedged downward into the ureter. Thus was accounted for the enlarged condition of one kidney and the contracted condition of the other.

It goes without saying, we were only too happy to be able thus to verify the remarkable diagnosis of Piorry, and at the same time to demonstrate so wonderful a triumph in medical science; revealing to the profession, as it does, possibilities that before had hardly been suspected.

HENRY RAYMOND ROGERS, M.D.

Dunkirk, N. Y.

A Case of Poisoning by Antifebrin; Recovery.

To the Editor:—Mr. L. presented himself at my office about 3 P. M. on August 14, informing me that he had taken some horse medicine, and upon examining my patient I found the most cyanotic subject that I ever had the misfortune of treating.

showing a livid tint of the skin resembling the tint of asphyxia, and complaining of general weakness, pain near the heart, a soreness beneath the sternum, with a beating pain passing from temple to temple, while to assume the erect position caused giddiness, increasing the cyanotic hue and a stinging pain in the eyes, while to assume the recumbent position gave him freedom from all suffering. Patient had no nausea or vomiting, but body was bathed in perspiration, respiring thirty times per minute, and a pulse of 110.

The medicine was taken about 5 A.M., producing in thirty minutes a form of intoxication and desire to sleep, which our patient indulged in until 10 o'clock. Gave him stimulants and ordered him to keep a recumbent position. I was afterwards informed that he had taken of a mixture of antifebrin one ounce, and elixir taraxacum comp. six ounces, of which solution he drank about seventeen drachms. I am sorry to say I did not take his temperature. I take great pleasure in reporting this case for it certainly demonstrates the susceptibility of the patient to this drug. See acknowledges its value, says it is poisonous, in doses of about 25 grains. Vineberg reports a case of typhoid where 10 grains every four hours produced great cyanosis and a weak compressible pulse of 116. Sexton tells of a case where 10 grains of antifebrin reduced the temperature from 105° to 102° F., 5 grains more were given, which were followed in two hours by cyanosis of the whole body, profuse sweating and collapse; while Pavai Vajna states that in weak patients a dose of 0.25 grams may produce collapse, while in some cases 1 gram has no effect at all.

In conclusion will say the patient—a farmer—resumed work the next day.

W. R. ALLISON, M.D.

Good Hope, Illinois.

The Migration of a Needle.

To the Editor:—On Dec. 9, 1888, Miss Nellie S., æt. 17, called at my office and stated that she believed she had a needle in her arm. Upon careful inquiry I could find no reason for such a supposition, except that she could feel something like a needle, one end of which was beneath the skin, while the other was deep in the muscles near the bone. She had never run a needle into her arm or in any other part of her body, and it was with much doubt as to the correctness of her belief that I began my examination.

Miss Nellie pinched up a roll of integument and muscle on her arm, and thrust one end of the supposed needle against the skin. It had all the appearance of some such foreign material, and I cut down upon the projecting point with forceps; I then removed a needle two inches long, with

the point broken off, and the whole needle enclosed in a capsule. It was the head of the needle found beneath the skin and the point was near the bone. The point from which the needle was removed was six inches below the tip of the shoulder and seven inches above the elbow on the front side of the arm.

The young lady's mother states that when 5 years of age the child was sewing and swallowed the needle. This needle must have lodged in some mucous fold of the pharynx or upper part of the œsophagus, and then passed down between the muscles of the neck and shoulder, and down the arm to the point from which twelve years later it was removed. Concerning this peculiar migration of such substances, J. Solis-Cohen says, that "sometimes needles and pins work their way in safety through the different tissues to the surface of the body, even to the most unlikely regions." SARA A. KIME, M.D.

Fort Dodge, Iowa, Dec. 10, 1888.

From Muskegon, Michigan.

To the Editor:—A new medical club has recently been organized at this place. Its membership will be limited to a specified number. It begins with a charter membership of seven, as follows: Drs. J. P. Stoddard, J. M. Cook, O. C. Williams, C. P. Donelson, J. VanderLaan, G. S. Williams, and F. W. Garber. Dr. VanderLaan has been made president, and Dr. Garber secretary and treasurer. Meetings will be held bi-monthly. The first regular meeting will be held Tuesday, January 22.

Twenty-eight cases of diphtheria have been reported to the Health Officer since December 1, 1888. These, together with the cases not reported, would make about forty cases within that time. With but one or two exceptions, the disease has manifested itself in a very mild form. Three deaths only have been reported.

F. W. G.

Muskegon, Mich., January 14.

Web Fingers and Toes.

To the Editor:—Five years ago Mrs. T., lately removed to this locality, had a child four years old having a complete web or fleshy union of ring and middle fingers of one hand. A year and a-half later her neighbor bore a child having a corresponding union in two pairs of the fingers of each hand, and similar union of the smaller toes of both feet. Was it a simple coincidence, or did the mother or father impress the child thus?

I. W. S.

Charles City, Iowa, Dec. 13, 1888.

BOOK NOTICES.

A TREATISE ON THE DISEASES OF WOMEN. For the use of Students and Practitioners. By ALEXANDER J. C. SKENE, M.D., Prof. of Gynecology in the Long Island College Hospital, Brooklyn, N. Y., etc. 8vo pp. 966. New York: D. Appleton & Co. 1888.

This handsome volume, which is profusely illustrated and beautifully printed, is the written embodiment of many years of teaching, and practical experience in the treatment of the affections of which he writes, and the practitioner cannot go very far wrong who follows the recommendations of Professor Skene.

It will be observed in an examination of this book, that Dr. Skene has aimed rather to give his opinions as they are now formed, than to burden the work with a profusion of quotations. The student of a historical turn must look elsewhere for recitals of ancient history, but in everything pertaining to the surgical treatment of the diseases of women, he need seek no farther for a convenient and fairly complete text-book.

In this, as in other branches of medical literature, the latest book is apt to be the best, because other things being equal the author has the recorded experience of his predecessors to guide him, and it is therefore no disparagement to some other works on diseases of women to say that the work under consideration is to-day the best book on the subject in the English language.

He begins, as is natural, to a work on this subject with a description of the methods of observation or diagnosis, then follows an account of the development of the sexual organs, (and reference is made to the malformations in this chapter), arrests of development with their accompanying menstrual disorders, flexions of the uterus, diseases of the external organs of generation, diseases of the vagina, and injuries to the pelvic floor; this chapter includes an account of rectocele and cystocele. In speaking of the sutures for these deformities he says:

"The success which J. Marion-Sims obtained with silver-wire led at once to its general use in gynecological operations. There is, however, good reason for believing that the results obtained by that great surgeon depended as much upon his skill in using sutures as upon the material which he used.

"To-day, we know that it matters little whether silver-wire or prepared silk sutures are used, provided they be properly introduced."

The different operations for these deformities are accurately illustrated by colored lithographs. A chapter is devoted to fistula in ano and coccydynia, and two on inflammatory affections of the uterus; there is a short chapter on subinvolution, and a chapter to his particular hobby (who has them not) "Sclerosis of the Uterus," which really is an increase of connective tissue and loss

of muscle cells, a clearly degenerative change analogous to the fibrous stroma in carcinomata, and it is probably true that such cases frequently become cancerous, and are so reported without reference to the original history of sclerosis. In the chapter on membranous dysmenorrhœa, we notice the old time picture from Simpson, originally published in this country in the Philadelphia reprint of Simpson's lectures, twenty-five years ago. This picture has been on duty so long that it ought now to be retired for "long, faithful and meritorious service," as the army phrase states it. It is the more unnecessary as there are more original illustrations than any other text-book on the subject with which we are acquainted.

Lacerations of the cervix receive due consideration, and the author agrees fully with Emmet in estimating their great importance. Indeed he gives that distinguished surgeon the full credit of establishing their causative relation to many other uterine diseases. The various dislocations of the uterus receive their full share of attention. Concerning Dr. Byrne's method of amputation of a prolapsed uterus by galvano-cautery, he frankly says, that while the histories of cases are very satisfactory he has had no experience with that operation. This principle of stating nothing upon hearsay, is the one pervading principle of the book; the warmth and enthusiasm of Marion-Sims is lacking, but instead we have the evidence of a firm purpose to state the exact truth, a little bald, may be at times, but its honesty commends it. When he has abandoned an operation, having tried it and found it valueless, he frankly says so; and many a practitioner will thank Dr. Skene for giving in this straightforward manner the results of his judgment formed after due trial.

The chapter on the "abuse of pessaries" is one of the most interesting, although short; but our waning space warns us to pass on. On diseases of the ovaries our author has given a complete résumé of the subject, including tumors and their treatment; he discards the term oöphorectomy as applied to the Battey's operation, and used ovariectomy instead. Concerning ovariectomy he says:

"I have long entertained the opinion that ovariectomy is the most difficult operation in the whole field of surgery. This is, however, a matter of opinion, and may be an error on my part, but it is positively certain that a thorough knowledge of surgery and all attainable dexterity and skill in operating can be employed with advantage in removing ovarian tumors. This operation differs from all others in the number and variety of complications which it affords.

"It is a notorious fact that this most important of operations has been performed by many who had no claim to be called surgeons; obstetricians who, having turned their attention to some of the plastic operations of gynecology and succeeded, have next taken to ovariectomy. A few, bolder still, have made their *début* in surgery as

ovariotomists, without any previous surgical experience.

"It is clearly evident that one should be well grounded in the science and art of surgery before taking up ovariectomy. The consummate surgeon can readily transfer his art to this department of abdominal surgery with far more hope of success than one who seeks to acquire skill by practicing ovariectomy as his maiden effort."

We have already overrun our allotted space in glancing at the contents of this excellent work, but there is a most important as well as original chapter to be singled out from the remainder for notice, and that is the one devoted to gynecology as related to insanity in women. This chapter is based on the results of a study of the subject at the King's County Insane Asylum. Our author claims that: 1. "Well developed insanity with impaired general nutrition causes suppression of the functions of the sexual organs." 2. "Deranged innervation tends to produce the same result." 3. "In mild forms of insanity menstruation may continue normal." 4. "Excessive menstruation among the insane is usually caused by uterine disease, and should be accepted as evidence of such."

In examination of insane patients, he has found nitrous-oxide the most expedient anæsthetic, owing to the difficulty and danger of giving other anæsthetic agents while the patient was forcibly held.

In conclusion, we congratulate the author on having produced one of the most useful text-books on this subject, and it only lacks a chapter on sterility and its treatment, to make it complete.

LEÇONS DE GYNÉCOLOGIE OPÉRATOIRE, PAR VULLIET, Professeur à la Faculté de Médecine de Genève, etc., and LUTAUD, Professeur libre de Gynécologie à l'Ecole pratique, etc. Paris: J. B. Baillière et Fils. 1889.

This book is sent out French fashion, in paper covers and should at once go to the bindery, but it is an excellent book nevertheless; the typographical execution is good, the illustrations numerous, original and generally good, although mechanically there are many that are not up to the American standard of finish.

The work is in substance a report of the lectures delivered by MM. Vulliet and Lutaud on gynecology. In the preface the authors refer to the paucity of reference to gynecology in French works on Diseases of Women, and say that for the student, there is no help from the classical text-books, and that they must obtain their knowledge of the subject from the clinical teaching and didactic lectures, and that it is only within the last quarter of a century that the subject has been referred to. The authors say:

"What progress has been accomplished in less than a quarter of a century! Sims, that daring innovator, who during the war of secession had left his country, arrived

in France and astonished the veterans of surgery by his practical genius. Velpau and Nélaton received him with enthusiasm, and the treatment of vesico-vaginal fistula became a current operation. His *Clinical Notes on Uterine Surgery*, published simultaneously in Paris and London, in 1866, was the point of departure of the great surgical movement which rapidly radiated all over Europe.

"One must realize that this book, under its modest title, truly contains the germ of all the gynecological innovations which to-day take rank among the classical operations; the methods of incision of the cervix, the treatment of vaginismus, of sterility, etc."

Surely Americans should be proud of this generous recognition!

The subject is treated of in twenty-three lectures of which fourteen are by M. Vulliet and the remainder by M. Lutaud. The series comprises: Methods of Exploration, Uterine Catheterism, Uterine Dilation, Displacements, Curettage, Trachelorrhaphy, Genito-Urinary Fistulas, Uterine Fibromata, Massage in Gynecology, Uterine Cancer, Uterine Orthopædies, on which last topic five lectures were given. Sterility and its Treatment forms the subject of four lectures which conclude with one by M. Lutaud on Methods of Artificial Fecundation.

It is a little singular that we should find supplied in this book the identical chapters missing from Skene's, and the distinguished authors have made these lectures extremely complete in this particular.

We note the classification of sterility as follows:

1. "Sterility by inaptitude to copulation (vulvitis vaginismus, vaginal atresia, etc.).
2. "Sterility by mechanical obstruction to penetration of the sperm into the uterus (uterine atresia, flexion concavity of cervix, etc.).
3. "Sterility resulting from non-retention of the sperm in the uterus, or the destruction of the ovum by morbid secretions (as in dysmenorrhea, menorrhagia, amenorrhea, endometritis, uterine catarrh, etc.).
4. "Sterility by inaptitude to ovulation and incubation (disturbances of the ovarian function, amenorrhea, infantile uterus, absence of the ovaries, ovarian ectopia, etc.)."

The author mentions with regret the growth of Malthusianism in France, and says that in many instances young married women prevent conception for the first few years of married life, thinking to bear children when their fortune should be greater, and in a great many of these cases permanent sterility has been produced.

In the lecture on artificial fecundation, the author refers to the experiments of Spallanzani in 1767, of Hunter in 1799, and of Girault in 1838 to 1869 and published in the latter year. Sims' publication was in 1866. Gigon, Courty, Leseur, Delaporte, Leblond and Pajot are also given due credit for their observations. It is, however, a little amusing to be told with gravity that artificial fecundation should not be attempted after the menopause nor during an early amenorrhea, nor when there is contracted pelvis or irremediable congenital defect of the genitalia, or chronic pelvic peritonitis.

In twenty-six cases he obtained complete success in two, in two there was an abortion near the third month, and the remaining twenty-two cases were unsuccessful; still as this operation does not involve pain or danger, it seems worth the trial in properly selected cases. These lectures are very entertaining in style and very instructive. We trust that the book may reach many editions, and recommend it with much pleasure to those of our readers who read French.

HAND-BOOK OF HISTORICAL AND GEOGRAPHICAL PHTHYSIOLOGY, WITH SPECIAL REFERENCE TO THE DISTRIBUTION OF CONSUMPTION IN THE UNITED STATES. Compiled and arranged by GEORGE A. EVANS. New York: D. Appleton & Co. 1888.

This is a most instructive and interesting work. It has been compiled with care from excellent sources. It contains numerous statistical tables. There is no subject in regard to which we need the fullest information more than this of phthisis. The conclusions arrived at in regard to the influence of climate on the disease are not different from those already promulgated by others. For the data pertaining to the geographical distribution of consumption in countries other than the United States, Hirsch's "Handbook of Historical and Geographical Pathology" has been extensively quoted from. The statistics for the United States have been gathered from the "Tenth U. S. Census Reports." N. S. D., JR.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS, Vol. i, No. 1. "The Pedigree of Disease," by JONATHAN HUTCHINSON. "Common Diseases of the Skin," by ROBERT M. SIMON. "Varieties and Treatment of Bronchitis," by DR. FERRAND.

This is the first volume of a new series of books started by the well-known publishing house of Wm. Wood & Co. They propose to issue a similar volume each month during the coming year. The series will be made up of monographs taken from the current literature of foreign lands. In the volume before us, and there is promised in the one to follow, two articles excerpted from English publications and one translated from the French. This first number is a volume of good proportions containing two hundred and fifty odd pages. It is bound in stiff paper covers. It is well printed on good paper. The first monograph by Jonathan Hutchinson fills one hundred and twelve pages; the second by Robert M. Simon, forty pages; and the third by Ferrand, ninety-nine pages.

The only part of the volume we have read with care, as it appears here, is the last. It is unfortunate that so poor a translation should be ad-

mitted to the series, and its presence in the first number does not argue well for those to come. This part of the volume contains many typographical blemishes as well as badly constructed sentences. For instance, on page 166 we find, "In fact these rings become the more incomplete the further the branches from the trachea." A little lower on the same page a singular noun appears where a plural one should be. Numerous such awkward sentences as the following can be found: "We have over and again pointed out to you in the wards emphysematous individuals in whom, under the influence of some cause, but slightly irritant, the bronchi becomes engorged, so that the dyspnœa is ardent and the cough short and choked, frequent and without much expectoration, perhaps a little stringy mucous more or less mucilaginous." N. S. D., JR.

CLINICAL LECTURES ON CERTAIN DISEASES OF THE NERVOUS SYSTEM. By PROF. J. M. CHARCOT; translated by E. P. HURD. 150 pp. Detroit: Geo. S. Davis. 1888.

These lectures are not very closely related in their subjects to one another and are not by any means exhaustive. They are interesting and instructive and worthy of a careful reading. The subjects of the several lectures are: Spiritism and Hysteria; Isolation in the Treatment of Hysteria; Choreiform Movements and Tremblings; Rhythmical Chorea; Muscular Atrophy consequent on Certain Articular Lesions; Contractions of Traumatic Origin; Painless Tic of the Face in an Hysterical Patient; Muscular Atrophy Consecutive to Articular Rheumatism; Six Cases of Hysteria in the Male Subject. N. S. D., JR.

ELEMENTS OF PRACTICAL MEDICINE. By ALFRED H. CARTER, M.D., Lond., etc. Fifth Edition. H. K. Lewis: London. 1888.

It is not necessary to describe in detail a work that, as this one has, passed through five editions in eight years. The author has succeeded in describing tersely and clearly the essentials of Practical Medicine. The work cannot displace the large text-books, but will be a useful summary and introduction to the subject.

N. S. D., JR.

THE PHYSICIAN'S HAND-BOOK FOR 1889. By WILLIAM ELMER, M.D., and ALBERT D. ELMER, M.D. New York: W. A. Townsend Publishing Co. Price, \$1.50.

This well known hand-book and visiting list needs no commendation from us, except to say that it is in every way equal to its predecessors and is now in the twenty-fifth year of its publication.

MISCELLANY.

ASSOCIATION NOTICE.—*To Secretaries of Medical Societies:* You will oblige the undersigned by sending to his office your name and address, in order that the list of societies in affiliation with this body may be correctly recorded. Yours respectfully,

W. B. ATKINSON, Secretary.

1400 Pine Street, Philadelphia.

ASSOCIATION OF ACTING ASSISTANT SURGEONS.—The annual meeting of the Association of Acting Assistant Surgeons of the U. S. Army will be held in Newport, R. I., Monday, June 24, 1889, at 8 P. M. Members of the Association are cordially invited to read or present papers concerning the history and the welfare of the corps. Members who intend to be present are requested to notify the Recorder at the earliest possible date.

A. REEVES JACKSON, M.D., President,
271 Michigan Ave., Chicago, Ill.
W. THORNTON PARKER, M.D.,
Recorder, A. A. A. S., Newport, R. I.

NEARLY 200,000 sheep have been guaranteed to the Canterbury Frozen Meat Company, of New Zealand, for shipment to London during the season of 1889-90.

SPANISH QUARANTINE RESTRICTIONS.—*Canary Islands.*—The Minister of Spain informs the Secretary of State, under date of December 17, 1888, that the Spanish Government has ordered that "all vessels coming from the Canary Islands, except those coming from the Island of Santa Cruz de la Palma (which is 150 nautical miles from the nearest island of the aforesaid group), shall be admitted to free intercourse with Spanish ports. The Government of Spain has taken all necessary measures of isolation in the rest of the Canary Archipelago, and has declared none but the aforesaid island of Santa Cruz to be infected. The undersigned, consequently, in pursuance of the instructions of his government, hastens to inform that of the United States that American vessels may, without the slightest danger, enter the ports of the Canary Islands, excepting those of Santa Cruz de la Palma. This information is furnished with a view to preventing the injury that would otherwise accrue to merchant vessels and to commerce in general.—*Weekly Abstract of Sanitary Reports*, Jan. 4, 1889.

HOW DOCTORS ARE VIEWED BY A GOOD-NATURED LITERARY MAN.—The doctor who could not laugh and make me laugh I should put down for a half-educated man. It is one of the duties of the profession to hunt for the material of a joke on every corner. Most of them have so esteemed it. Garthe, Rabelais, Abernethy and a hundred or so more too near to be named, what genial, liver-shaking heart-quickening, wit-wakening worthies they were and are! To the son who loves her best Nature reveals most her tricks of workmanship. He knows there is a prize in every package of commonplace and sadness, and he can find it—not only the bit of fun shining to the eye of the *connoisseur* like an unset jewel, but the eccentricity, the resemblance, the revelation, countless signs and tokens of the evanescent, amusing, pathetic creature we call the human. Heartless, grasping, irreverent? The deepest compassion for human ills, the broadest generosity to human needs, the highest respect for all that is strong and pure and holy in human lives, I have seen in the men who come closest to the mystery of life and the mystery of death, who read the naked heart when it is too weak or too sorrowful to hide its nakedness, who know our worst, and are most of them wise enough to strike the balance. If they are cynics it is we who have made them so. We are the books out of which they

learn their lessons.—*Mr. A. B. Ward in Scribner's Magazine.*

PAMPHLETS RECEIVED.

Coleman, Jno. S., M.D., of Augusta, Ga. *Cæsarcan Section.* New York: 1888. Reprint from the *Amer. Jour. Obstet. and Diseases of Women and Children.*

Ibid. *The Multiple Wedge Principle in the Treatment of Organic Strictures of the Urethra.* Extract from *Trans. Am. Surg. Ass'n.* Philadelphia: 1884.

Van Bibber, W. C., M.D., of Baltimore, Md. *The Prevention of Yellow Fever in Florida and the South.* Cutting from the *Maryland Med. Jour.*

Mittenberger, Geo. W., M.D., of Baltimore, Md. *Tet-anoid Falciform Contraction of the Uterus* (R. P. Harris). *Ante-Partum How-Glass Contraction of the Uterus* (Hosmer and Smith). Reprint from *Maryland Med. Jour.*

LETTERS RECEIVED.

J. Walter Thompson, New York; W. B. Atkinson, M.D., Philadelphia; J. A. Brooks, M.D.; R. Condit Eddy, M.D., New Rochelle, N. Y.; J. O. Berlin, M.D., Bath, Pa.; Frank W. Garber, M.D., Muskegon, Mich.; Wm. A. Phillips, Jr., M.D., Salina, Kan.; O. H. Merrill, M.D., Corinna, Me.; Chas. S. Northen, M.D., Chulafinnes, Ala.; A. Ostertag, M.D., St. Louis, Mo.; C. H. A. Kleinschmidt, M.D., Washington, D. C.; I. C. Rosse, M.D., Washington, D. C.; S. Chris. Lange, M.D., Pittsburgh, Pa.; Richard H. Day, M.D., Baton Rouge, La.; A. F. Walter, M.D., Gladbrook, Ia.; Prof. G. Rummo, Rome, Italy; A. A. Noyes, M.D., Minneapolis, Minn.; Mr. Charles King, Oswego, N. Y.; W. C. Van Bibber, M.D., Baltimore, Md.; Mr. Frank A. Burrelle, Chicago, Ill.; Edward F. Wells, M.D., Shelbyville, Ind.; W. C. Briscoe, M.D., Washington, D. C.; Mr. Geo. F. Niles, Wataga, Ill.; R. J. Dunglison, M.D., Philadelphia, Pa.; Mr. C. B. Leonard, Mauch Chunk, Pa.; J. Ewing Mears, M.D., Philadelphia, Pa.; Ward Bros., Jacksonville, Ill.; A. L. Gihon, Med. Dir. U. S. Navy; J. S. Wright, M.D., Brooklyn, N. Y.; Joseph Taber Johnson, M.D., Washington, D. C.; Rose Wright Bryan, M.D., Glencoe, Ill.; Thos. Leeming & Co., New York; Malted Milk Co., Racine, Wis.; W. M. Harsha, M.D., Decatur, Ill.; J. J. Rendleman, M.D., Makanda, Ill.; G. E. Francis, M.D., Worcester, Mass.; W. H. Peck, M.D., Lyons, Ia.; E. Smith, M.D., Burchard, Neb.; John E. Purdon, M.D., Valley Head, Ala.; Thos. W. Kay, M.D., Baltimore, Md.; Chas. F. Disen, M.D., Minneapolis, Minn.; J. B. Stinson, M.D., Sherman, Tex.; H. Morey, M.D., Alta, Ia.; James Brewster, M.D., Scotland, Dak.; A. B. Newkirk, M.D., Falls City, Neb.; A. M. Leslie Surgical Instrument Co., St. Louis, Mo.; L. C. Laycock, M.D., Decatur, O.; C. S. Stewart, Anite, La.; Travelers Insurance Co., Hartford, Conn.; J. A. Brobst, M.D., Macungie, Pa.; Thos. D. Strong, M.D., Westfield, N. Y.; L. S. Trowbridge, Detroit, Mich.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 5, 1889, to January 11, 1889.

Major William E. Waters, Surgeon, leave of absence granted in S. O. 129, Dept. of the Columbia, November 9, 1888, is extended one month. Par. 9, S. O. 2, A. G. O., January 3, 1889.

By direction of the President, Capt. Robert W. Shufeldt, Asst. Surgeon, will report in person to Brig.-Gen. Wesley Merritt, President of the Army Retiring Board at Ft. Leavenworth, Kan., for examination by the Board. Par. 1, S. O. 4, A. G. O., Washington, January 5, 1889.

By direction of the Secretary of War, Capt. R. W. Johnson, Asst. Surgeon, is relieved from duty at U. S. Military Academy, West Point, N. Y., and will report to commanding officer at San Carlos, Ariz., for duty at that post. Par. 10, S. O. 7, A. G. O., Washington, January 9, 1889.

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No. 4.

ORIGINAL ARTICLES.

ON THE MANAGEMENT OF FEVERS IN CHILDREN.

Read in the Section on Diseases of Children, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY JOHN A. LARRABEE, M.D.,

PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, AND DISEASES OF CHILDREN, IN THE HOSPITAL COLLEGE OF MEDICINE, MEDICAL DEPARTMENT OF CENTRAL UNIVERSITY OF KENTUCKY, LOUISVILLE.

In inviting your attention for a few moments to some points in the management of child fevers, I am fully aware that the subject is trite—that it has been thoroughly written by far more scholarly pens, and that in a texture so well woven it would be hard indeed to cull even a few threads of purely original thought. My apology, if apology be necessary, must be found in this—that it is not the rare and infrequent diseases which most perplex the practitioner, but oftener the most common departures from health. The phenomena which constitute a coryza are certainly familiar, but the treatment of a "bad cold" is an *opprobria medicorum*. No less familiar to our observation is the phenomenon of fever, and no more explicit is its etiology.

The object of this paper is to provoke a profitable discussion upon the mechanism of fever, to ascertain, if possible, the object which Nature designs to accomplish by its inauguration, and to determine what means are best calculated to promote that object and hasten the return of the patient to a state of health. The vast amount of literature, and the widely diverse views of the most celebrated authors, render it apparent that still more careful study is necessary before the practitioner at the bedside can answer these questions with entire satisfaction to himself or to others. The fevers of childhood known as the eruptive fevers, or exanthemata, require no separate allusion. As a class they have been observed through so many centuries and are so well understood that they shall form no part of this paper.

The existence of nerve centres in the brain and spinal cord, whose function is to preside over calorification, is universally acknowledged, if not conclusively proven. These centres, when disturbed, are found to be both excitant and inhib-

itory. Hence fever may occur either by an increase in heat production or a prevention of its dissipation. I see no reason why nerve force may not be transformed into heat, as in the current of electricity. The introduction of morbid material, in microorganisms, and their rapid reproduction within the body as a cause of fever, is also generally accepted. Fevers originating in poisonous effluvia have been properly called "pythogenic" by Murchison. If to this class we add those which are symptomatic, the classification of child fevers would be sufficiently extensive. We can no more conceive of an idiopathic fever than we could of an idiopathic hypertrophy of the heart or any other internal organ. Suffice it, then, that in whatever manner fever may be produced the process is the same, and denotes a resistance on the part of the body toward its enemies. The character of the fever and its duration also marks the constitutional vigor of the patient. As a general rule, those belonging to the sanguinonervous temperament are good fever patients, and those of a phlegmatic habit succumb more readily. Pain has been termed very aptly "Nature's alarm bell," and the interminable net-work of nerves of sensation has been wisely arranged for this purpose. Fever may be termed the red light of danger, and wherever this signal flashes it is a warning to go slow. The fevers of childhood are sudden in their occurrence, short in duration, and aside from involvement of internal organs or other complications, tend to recovery. By far the greater number are symptomatic in origin, and subside with the removal of the cause; such are denominated *ephemera*, or *febricula*. Fever, however produced, denotes the ability of the organism to fight the cause. There is much truth in the statement that "who caught up a fever can get well." In our search for extraneous causes we are apt to ignore the possibility of internal origin.

In my experience these constitute by far the most frequent causes of child fever. It is all very well to examine into the sanitary condition of our houses, to inspect the sewerage, the drainage, and ventilation, to be careful to sleep high and avoid dampness and marsh miasm—but there are thousands of individuals who are hypersensitive and hypocritical upon the point of house sanitation, whose bodies, the soul's dwelling, are defiled in

every possible manner. We read much of the consequences of choked drains, while we suffer the intestinal tract, the "cloaca magna" of our bodies, to be packed, and to germinate bacteria, and ptomaines more potent than marsh miasm in the production of fevers. We are hardly yet beginning to appreciate the consequences of chemical changes and fermentation within the body. The subject of *ejesta* is as important as that of *injesta*, and the *bacillus subtilis* in the intestinal tract may yet prove as important for our study as the *bacillus typhoidens* now supposed to be the cause of fever. Moreover, all children are not alike prone to fever. What child physician has not become familiar with fever families? and upon careful examination the children will be found those whose diet includes luxuries and dainties, thus stuffing and clogging excretory organs, and excluding necessary and healthful exercise in the open air. To my mind it is possible to have such a complete and perfect action of the various functions of the body, that not only will not cause disease to exist within, but if these causes be brought from without into the body, they will be repelled. There can be no doubt that when the skin is kept in a perfect condition the interchange of gases takes place after the manner of the lungs. Elevation of surface temperature indicates a lung action in that part. A diagnostic point upon which I place the greatest importance in infantile pneumonia is, that the elevated temperature corresponds to the affected lung.

The care of the skin, both as to prophylaxis and treatment in fever, is second to no other consideration. It is now known in physiology that while every organ has its particular function, there is no organ which may not assume the duties of others, and that vicarious action is oftentimes the salvation of our lives, by which we escape the punishment of our own neglect. The ferments designed for digestive purposes may be changed into most virulent poisons, as they are themselves excrementitious. Hence the treatment of child fevers becomes at the same time the prophylaxis, and should include the following important considerations:

1. A greater abundance of pure fresh air.
2. Anti-thermic rather than a pyretic medication.
3. Careful regulation of the diet of the patient.
4. The daily ablution of the whole body in water at a temperature agreeable to the patient.
5. A forced dilution by frequent draughts of water or other fluids.
6. Very little medicine, and such medication to be restricted to the indications of nature in diseases.

IDENTITY OF REMITTENT AND TYPHOID FEVER IN CHILDHOOD.

All authorities agree that typhoid fever is ex-

ceptional in infancy, rare in early childhood, and becomes more frequent as we approach adult years. It is possible that statistics upon infantile fever may be considerably changed, especially between the ages of five and fifteen years, by a more careful observation of cases called remittent fever. It was at one time believed that rheumatism was a rare disease in childhood, until a trained observation overthrew the traditional "growing pain" of the nursery, and threw an important light upon the occurrence of serious cardiac lesions originating in infancy and childhood. It is to be regretted that no settled conviction exists in the minds of practitioners in regard to what constitutes a remittent and a typhoid fever in the child. Under the idea that typhoid is to be excluded at an age indefinitely fixed by statisticians, we find many excellent physicians conducting a case with all the anorexia and pyrexia, the characteristic tongue, the tympanitic abdomen, the ochre stools, and the delirium of typhoid fever, through fourteen or twenty-one days of time, under the diagnosis of remittent or simple continued fever; often as entero-colitis, and still oftener as a typho-malarial attack. It is not at all unusual in such cases to find that the diagnosis also has undergone several changes, entailing a useless if not a positively dangerous variation in therapeutics. If there be no practical difference between these diseases, why preserve the nomenclature? Strike the name remittent fever from the nosology of children's diseases. I am aware that a more careful study of disease naturally results in further division, but it would seem here that increased knowledge leads to a more complete concurrence of opinion that remittent, so-called, and typhoid fever in the child are synonymous. I cannot but think that such a simplification would result in a purer practice and a lessened mortality.

W. H. Day, in his excellent work on "Diseases of Children," writing upon typhoid fever, makes use of the following language: "I must disavow at once any belief in an infantile remittent fever as caused by a separate and distinct poison, or that the disease differs in its nature or causes from typhoid. I can conceive few greater blunders in practical medicine than to consider this a separate and distinct affection, not following the same course as typhoid fever, and not leading to the same complications." Further on the same author concurs in the idea that the term remittent fever should be limited to the mildest cases, which run a short course without developing the severe typhoid. Such cases have no rash and appear to be due to a depraved condition of the alimentary canal. Dr. J. Lewis Smith admits the similarity of the two diseases but endorses the existence of a remittent fever in childhood arising from dentition, worms and gastro-intestinal inflammation. The same author describes an essential remittent fever due to malaria, to which he devotes a very

short chapter. But under the head of typhoid fever, in his excellent treatise, we find the following suggestive sentence, "It (typhoid) is probably more common under 6 years than is commonly supposed." Dr. West is clear upon the identity of typhoid and remittent fever, while Hillier advises the term remittent to be ignored. Again there is no good reason for retaining the name remittent to be applied to a mild form of typhoid. What untold evil continues to result from the idea engrafted upon the laity that scarlatina is a diminutive? Do we not recognize grades of typhoid in adult practice? Not over eighty per cent. have the characteristic eruption. What grades exist between the "walking case" and the severer forms? Most of the writings upon remittent fever are so filled up with exceptions that they are entirely valueless to the practitioner.

We are living in a period of the world's history unprecedented in brilliancy. The developments made by the microscope and by vivisection are wonderful, and have revealed a previously hidden creation. The fabric of past theories of disease has been shaken from turret to foundation stone. Synthetic reasoning is prolific in theories, but no sooner do we seize upon one than it dies in giving birth to another. Cast upon the medical world decked in the gorgeous attire which genius alone can give, they dart across our mental horizon and go out in darkness. The microbial craze has seized upon our vital pathology while poor old lame and worn out therapeutics comes hobbling along in the rear, scarcely daring to breathe and ready to apologize for being in existence at all. We have indeed been led into new pastures, but not beside still waters. So far the treatment of fever by attacking the bacillus has not proven a success. Like the Hebrew children, we take our harps down from the swaying willows and turn our thoughts again toward Jerusalem.

Considering that fever is but the evidence of the warfare which nature has inaugurated against a foreign or domestic foe I prefer to speak of the management rather than the treatment of child fevers. The maxim which I endeavor to keep before me in child practice, "Childhood is a period of life requiring the greatest amount of knowledge and the least amount of medicine." If, as I know is true, I use less quinine among children than my fellow practitioners it is because I have found it unnecessary when a careful attention has been paid to the secretions and excretions. There are certain well-known requirements in the management of a fever which accepted by all are followed by none: A large airy chamber—if possible an upper room—with free ventilation, an exposure to sunlight, an abundant supply of fresh water for bathing and drinking, a very light diet, and a kind and obedient nurse.

If, as is commonly the case in children, we are called early for the anorexia preceding the fever,

or in the first week of typhoid, the following routine is ordered: an effectual evacuation of the stomach by ipecac and warm water, followed by hourly doses of $\frac{1}{16}$ gr. calomel for 24 hours; a warm soap and water bath, a regular soaker; clean linen and underwear, both on person and bed. This occupies two days of treatment, and when well done one-third of the cure has been effected. If the fever be an ephemera or febricula often the entire cure is accomplished. If at this stage there is still a doubt as to the fever being malarial and not typhoid, I order suitable doses of muriate of quinine perfectly dissolved in muriatic acid and syrup of orange; this is administered in such doses and intervals that malarial complications may be left out and a diagnosis arrived at early. So soon as this fails to control the fever—and it becomes apparent that we are dealing with the specific cause—quinine should be stopped, nor should it again be given until convalescence may call for its tonic action. A tumbler of water containing dilute muriatic acid is placed near the patient and sipped occasionally through a bent glass tube, and the fever coil is applied to the head if restless. Food is not urged, but it is necessary not only to allow but to urge that frequent draughts of water be given, and along with this I use very small doses of morphia or opium throughout long-continued fevers, especially in typhoid. I find that small doses of opium stimulate the brain and support the nervous system far better than food, while many authorities agree that the elimination of urea is increased by it. There is no medicine in typhoid equal to small, very small, doses of Tully powder when symptoms of restlessness or delirium are present.

REDUCTION OF TEMPERATURE IN FEVER.

Fashion rules in medicine no less than in society—to be out of fashion is to be out of the world. History repeats itself, and no sooner does the great pendulum reach the utmost limit than it begins to sway slowly backward. Abandoned remedies become new, and old exploded ideas are again worshiped at our shrine. A few years ago the medicine man at the bedside of a little sufferer had but one thought, and that was temperature. Society meetings developed into a few patient listeners to long lists of hourly thermometric observations, in which all other symptoms, even the disease itself, was lost sight of. The temperature man with his lengthy tables has had his day, and we instinctively take a full breath of comfort in the belief that he will not return.

I have no doubt that very many persons have succumbed to the Don Quixotic fight waged against temperature alone. It is an extremely hard pull if the child has to contend against two forces: the specific poison of the fever and the toxic action of medicine. I hope no one will infer from these sentences that I have discarded the

fever thermometer, on the contrary, I rely implicitly upon its teachings: I use it just as an experienced seaman would use the lead, not in plain sailing but when approaching a lee shore. The minute predictions which some doctors are able to make by degrees and fractions upon a thermometer is suggestive of a story I once heard of a Nantucket sea captain who could tell his soundings and fix the exact position of his ship by the smell of the lead. One of his crew wishing to test the old man's power of discernment carried, the next voyage, some ground dug from his own garden. When, after the voyage, the ship was returning and the lead was ordered to be thrown the sailor opened the sack and rubbed the lead in it before taking it down to the cabin. "Great Heavens!" exclaimed the captain, "Nantucket has sunk and we are at this moment over old Nancy Hackett's garden."

Hydrotherapy reaches its maximum of usefulness in the fevers of childhood. The greatest possible extremes, however, have been reached in the application of cold. Such frigid packs as are recommended by authors in Ziemssen are certainly opposed to what we know of heat production and heat laws. It is not surprising that they have found so few advocates in our day. Driving the heat from the surface is no more reducing the temperature of the blood than surrounding a fire by a wall is reducing the heat within the furnace. Any application of cold which causes a continued horripilation of the skin, must necessarily produce internal congestion, and the statement made by advocates of the ice pack, that such complications as bronchitis and pneumonia would have occurred independent of such application must be taken *cum grano salis*. In children moderately ill of fever a warm bath should be given daily, preferably in the evening. In those who are too ill to be removed from the bed, the warm wet pack is to be preferred. So great is the benefit accruing from filling the cutaneous vessels and the sedative effect of moist vapor upon the nervous system that anodynes are unnecessary. The same procedure is equally beneficial in acute infectious diseases.

That dimethyloxy, quinizin, antipyrin, and acetanilide are able to reduce fever heat no longer admits of doubt. The *modus operandi* is a matter of more important consideration. It has been established by numerous experiments, that antipyrin and antifebrin inhibit the organizing power of the blood corpuscle. In this strangulation the latter is far more powerful. That this explanation is not alone able to account for the action of these wonderful drugs, is shown in the fact that other agents possessing still greater power are found to be less efficacious. I am convinced that all the compounds of phenol and salicylic acid, the chinoline derivatives, exert an anaesthetic effect over the heat centres before

mentioned. It is easy to conceive how drugs which interfere with oxygenation and which cause the oxyhæmoglobin to be replaced by metahæmoglobin can become dangerous. Neither of these drugs should be used in the consolidated lung of pneumonia or pushed when there is evidence of retained carbon dioxide in the blood. In uncomplicated typhoid I regard antipyrin safer and more efficacious than gelsemium, aconite or veratrum. I know of no advance in therapeutics of more practical importance than this: that with the same agents with which we reduce temperature we allay pain and quiet reflexes without the use of narcotics.

Practically I have obtained the finest possible effect from the phenate of ammonia in the fevers of childhood. I have made very extensive use of the preparation known as M. Declat's Sirup Ammonia Phenique, both in the gastric or fermentative fevers and in the several forms of typhoid; and I can certainly substantiate the claim made by the manufacturer of nascent phenic acid to be well founded. I am satisfied that Drs. Jackson and Barnett, of Wisconsin, and M. Robins, of Paris, are correct in the statement that according to the accepted theory of heat production in fever, ammonia is the proper base for phenol and salicylic acid. I have never met with as good results from prescriptions filled at drug stores where ordinary carbolic acid is dispensed. Phenic acid requires not only great pharmaceutical skill in its manufacture, but also in its preservation in the nascent state.

ALCOHOL IN FEVERS.

The want of definite knowledge of the action of alcohol in the system is productive of very serious errors in its use in fevers. Prof. Austin Flint in his most admirable and exhaustive address before the Ninth International Medical Congress, devotes much space to the good effects of alcohol in the treatment of fevers, and places great stress upon the wonderful tolerance presented by the patient, making this tolerance the guide to the quantity to be exhibited. His words are, "that in fever, only such quantity of alcohol as is readily oxidized is useful," also that its use is "to supply heat and save waste of tissue in fever." "It is not unusual," says the same author, "to administer from sixteen to thirty-two ounces of brandy in twenty-four hours." Bartholow says, that from one ounce to one and a-half ounces may be oxidized under twenty-four hours, the excess must be eliminated as pure alcohol and acts as alcohol upon the nerve structures and tissues. Alcohol is a food only in the most restricted sense of that term. As a stimulant it is often needed and I do not hesitate to use it under such indications. It is rapidly followed by depression, and requires as much care and judgment as the more dangerous medicines. Ger-

minal tissue is killed by alcohol, and I have never seen a child fever treated by alcohol which I thought could not have been better treated without it. The claim that alcohol in enormous quantities, saves life in snake bite, dissection wound and diphtheria is based entirely upon its stimulating properties and not upon its apyretic action as a respiratory food. All that ought to be said of it in fevers is, that when indicated as a stimulant in grave atony, its use is not contraindicated by the high temperature present. Diluted with water and sponged upon the naked body, it is certainly beneficial in abstraction of heat, and the same effect is delightfully refreshing.

FEEDING IN FEVER.

Nothing pertaining to the treatment of fever can be of greater importance than diet. Few doctors are sufficiently explicit in their directions. It is a subject which has been characterized by the greatest possible extremes. It is possible that in olden times patients were starved to death by the doctor; and it is equally true that in the attempt to reform this treatment hundreds and thousands have died of over-feeding. The desire expressed by Graves, that his epitaph should be, "he fed fevers," is as likely to perpetuate error as truth, and the injunction, "Don't let your patients die from starvation," does not preclude the idea that they may be killed by over-feeding. Dogs may be prevented from going mad in August by killing them in July. The danger at present is entirely in the other extreme to which we have been carried by gazing upon the spectre of inanition. Nothing is more common than to find the young and inexperienced practitioner stuffing a fever patient one hour with quantities of milk and egg-nog, and the next with beef-tea and peptonoids and bovine, and the next with medicine, until it is impossible to find an unoccupied hour for sleep. Actually the amount of food fed to fever patients under the dominant idea of preventing exhaustion, in a single day, would be sufficient to sustain the life of a well child for a week. I have seen children ill with typhoid fever suffering from retained curds of milk cheese as large as my fist at a time when danger from intestinal ulceration was imminent. Their cries from pain being attributed to tumefaction, opiates would be freely used to restrain the action of the bowels. I have never seen any good result from forced feeding in typhoid fever. It is granted that fever produces certain changes in the digestive organs rendering the assimilation as well as the digestion quite impossible. Such changes are noted in the peptic glands, pancreas and liver, while the saliva—the first essential—is wholly inadequate to do the work of ptyaline.

Upon this point Dr. Flint says: "The practical skill of the physician is taxed to the utmost in individual cases to overcome these difficulties; but

the judicious administration of milk, eggs, farinaceous articles, meat broths, meat essences, etc., is always productive of good results." With all due respect for the distinguished author, I *must differ*. Here, again, let us interrogate nature more closely in regard to this diminution in the digestive and assimilative function—whether or not these changes are not also conservative. It is granted that one of the principal dangers in typhoid fever is the poisoning of the system with the product of histolysis. Are we lessening this burden of the kidneys by adding to the ozonized waste? It is claimed that the hydrocarbons should be freely given to supply respiratory food and aid in the production of heat, and then alcohol is at once the most acceptable form in which to effect an entrance of hydrocarbonaceous food into the system. At the same time experiments prove alcohol to paralyze the ozonizing power of the blood corpuscles. The subject of lithæmia in fevers is certainly an important one, the study of which is calculated to greatly modify our idea of feeding. It is commonly stated that fat people have a more intense pyrexia than those who are wanting in adipose tissue, a statement which my observation in child fever has not confirmed. And if fat were an objection as supplying food for the fever, how can we reconcile this argument with the idea that we ought to feed hydrocarbons in fever?

In phthisis the blood corpuscles are cut down to suit the requirements of the lung in supply of oxygen, and any attempt to reinstate them by administration of iron while the capacity of the lung remains crippled is followed by increased irritation and injury. When in the aged the arteries become brittle by deposition of earthy material in their coats, do not we see, *pari passu*, with such change, fatty degeneration of the heart muscle? and is not this a wise provision of nature against rupture of such blood-vessels? If we were to mistake nature's object in this compensation, retrograde though it be, and administer digitalis, would we not precipitate the danger? I must confess to a more careful study into such provisions of nature the older I grow in medicine, and I heed them more.

In one accustomed to pay some respect to the appetite in fevers as a guide to feeding, I offer a limited quantity of milk, preferably buttermilk or skimmed milk, and if not willingly taken, wait. As to beef-tea, there is not a pound of nourishment in a ton of the stuff. Five grains of nitrate of ammonia in a tumbler of water discounts beef-tea.

The power of common salt in promoting cell activity and osmosis ought not to be lost sight of in long continued fever or illness of any kind attended by wasting. I always feed salt in the milk or water in sufficient quantity to secure this result and prevent indigestion of the little food allowed. With children sick with typhoid I have found

Mellin's an excellent food. I use it with milk and barley-water, and find that it is relished and digested.

QUIET.

It is estimated that life may be sustained independently of food and water for six or eight days—with water without food very much longer. If, however, muscular exertion be added, death will more rapidly ensue. Muscle glycogen is an important element, and in order to husband the forces reserved by the body for these emergencies, perfect rest must be enjoined. The wasting in typhoid is of muscular fibre, preserving the adipose tissue to a great extent uninjured. In consumption the reverse is the case, and the fats are absorbed. Sudden death from cardiac failure is the penalty of exercise or exertion, even when the patient is convalescent.

Finally, the selection of a good tonic for the convalescent stage of fever is often a matter of importance. Ordinarily the return to health after the fever poison has expended itself is rapid and permanent, and the emaciation of the body is rapidly made up to a point of plumpness exceeding that from other illness. The return of appetite indicates that nature's best tonics will be borne, and air, exercise and diet begin to demand attention. In many cases, however, the appetite is capricious after the tongue has become clean, and there are other evidences of damage from the struggle. No tonic has accomplished so much at this time as the citrate of iron and ammonia given in infusion of columba.

Previous to its discussion a vote of thanks was extended by the Section to Dr. Larrabee for his valuable and timely paper, and it was referred to the Committee on Publication with the request that it be printed in *THE JOURNAL* at an early date.

DR. JENKINS remarked that he was greatly interested in Dr. Larrabee's paper. There were two points upon which he wished to speak. *First*, as to the identity of infantile remittent and typhoid fevers: 'Twenty years' experience had led him to believe that remittent fever in the child, as in the adult, is frequently malarial. Children are more susceptible to malarial influence than adults, and often have remittent fever from a malarial influence only sufficient to cause intermittent fever in adults. He thought typhoid fever quite frequent in childhood and even in infancy, but entirely distinct in its etiology and different in its clinical history from remittent fever. Febrile movement is very readily induced in infancy from indigestible food, cold, etc., and is frequently remittent in character, but it is not of specific origin, and therefore neither malarial nor typhoid.

Second. He most heartily agreed with the paper as to the importance of restricted diet and abun-

dance of water in the fevers of infancy and childhood. Infants with fever nurse more frequently, in consequence of thirst, and water, not food, is demanded. The stomach is overloaded and fermentation induced, invariably increasing the febrile movement, and favoring the development of eclampsia, gastric catarrh, etc. A restricted diet is of special importance during the first week of typhoid, while there is hyperæmia and infiltration of the Peyerian glands. Excessive feeding at this time increases the engorgement and causes a greater amount of necrosis. It is after the first ten to fourteen days, when the fever is partially free from the absorption of septic elements from ulcerating surfaces, that sustaining treatment by nutritious and easily digested food given at frequent intervals, together with stimulants and tonics, is of great value.

DR. JOHNSON said typhoid fever does not always follow a prescribed course and is not always of a severe nature. He uses quinine early to aid in diagnosis, and then discontinued its use. He also substituted water for milk.

DR. LAWRENCE wished to defend the young and inexperienced men in the profession from the damaging assertion that they stuff their patients with milk, beef-tea, gruel, etc., giving nature no time for that rest which she so much requires. Thinks the younger man less liable to forget his physiology and commit so great an error, than the one on whose head has fallen the snows of many winters. He then spoke of the superiority of cold as a therapeutic agent in the reduction of temperature. Did not advocate the symptomatic treatment of fevers. Uses arsenic in preference to quinine in malarial fevers of children, on account of its being well borne, of a pleasanter taste, and the certainty of its effect.

DR. BOYCE would add his testimony to the value of antipyrin in typhoid fever, also would corroborate the paper in its entirety. He too used quinine as a diagnostic agent.

DR. CHRISTOPHER said that the results of the recent investigations of the blood in malaria had proved that the diagnosis of this disease could now be made with ease and certainty by the microscope. Not so, however, in typhoid fever, since the cultivation of the bacillus of typhoid is so tedious and difficult. During the past fall and winter Cincinnati had been visited by an epidemic of typhoid which appeared first among children. He had, in this epidemic, three cases in children under 2 years of age—18, 14 and 9 months of age respectively. In all these the disease pursued a typical course of about two weeks' duration. The usual eruption was present and all had sordes on lips. The disease was modified according to the age of the child, the bronchial symptoms being more prominent, with corresponding involvement of the large intestine, so frequently seen in bronchial catarrh in young children.

EXPLORATORY LAPAROTOMY.

Read in the Section on Surgery, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY HENRY O. MARCY, A.M., M.D., LL.D.,
OF BOSTON, MASS.

The safety of laparotomy by modern surgical methods has so greatly increased the utility of the operation, that the time has arrived when it may be advantageously discussed as a means of diagnosis. Although the clinical differentiation of abdominal disease has been much advanced in later times, it is clearly conceded by those of the widest experience that many important conditions can only be approximately determined by all the other means at our disposal.

As if in mockery of my own views, only within the week have I made two autopsies upon my own patients which serve pointedly as an illustration. The one, a sufferer from obscure abdominal symptoms, died from a sudden hemorrhage caused by the rupture of a post-uterine vascular growth, which could have been diagnosed in no other way than by exploratory section. The second, a chronic sufferer for months from severe local pains about the pylorus, where the diagnosis of an eminent consultant, as well as myself, lay between impacted gall-stones, or cancer. Symptoms of an acute peritonitis supervened, causing death in a few days. This, viewed in the light of an autopsy of a week previous, where somewhat similar symptoms had been produced by an actively developing cancer, seemed to settle the case as malignant. To our utter surprise, the post-mortem revealed an acute appendicitis caused by a focal concretion which had supervened with ulcerative perforation as the cause of the acute peritonitis. A stenosis of the pylorus was found, caused by old adhesions about a degenerated gall bladder, full of concretions, but this had nothing to do with the immediate death of the patient.

We have all of us, in our years of experience, more or less often met with abundant illustration of the uncertainty and obscurity which marked the progress of the fatal issue from intestinal obstruction, typhlo-enteritis, extra-uterine foetation, abdominal tumors, etc., and, until recently, considered we had exhausted our skill in symptomatic treatment, where the autopsy has shown, could we have known earlier the changes taking place, surgical aid might have saved life and restored health.

The dangers attendant upon laparotomy are still considered so great, and the fear of results are so fixed in the general opinion of the profession, that it is yet looked upon as a *dernier ressort*. Most of us in middle life have watched the development of the operation almost from its inception, and some keenly remember the opposition, which assumed even a personal type, in daring to put into execution our convictions.

In the development of modern surgical methods,

the experience of the profession is now sufficiently ample to warrant a revision of its teachings, and the object of this paper will be accomplished by your active participation in the discussion of the subject, to which I contribute the following report of laparotomies, which includes only and all the cases where I have opened the abdomen, and finding conditions which did not warrant further operative measures, closed without surgical interference.

Case 1.—Female, æt. 30. Opened abdomen in 1880. Interstitial myoma. Five years since it first gave the patient trouble. Filled pelvic basin. On account of the vascular supply, deemed it unwise to remove ovaries or growth. Recovery easy and rapid. Patient living and far more comfortable since.

Case 2.—June, 1885. Child, æt. 4 years. Seen in consultation with Dr. Adams of Framingham, and aided him in operation two days later. Case supposed malignant, acute. Temperature 105°, pulse 150. Suffering severe, abdomen distended with fluid looking like pus, odorless, creamy, which, on examination, was shown to be a pure development of micrococci (after cultured to several generations). Operation determined upon because of character of fluid. Abdominal cavity carefully washed out with a weak mercuric bichloride solution. Perfect recovery followed. Patient living and growing finely.

Case 3.—May, 1886. F., æt. 60. Slow development of an enormous abdominal distention. Uterine myoma filled the pelvis, but diagnosis uncertain. Fifty pounds of fluid removed. Recovered from operation and was greatly relieved, but died a few weeks later.

Case 4.—Nov., 1886. Male. Subject to frequent attacks of illness, with great pain in region of appendix. Temperature reaching to 104°. Localized soreness and tenderness. Appendix not involved, but bands of adhesion at head of cæcum were divided. Recovery complete, followed by a gain in weight of over thirty pounds. Remains well.

Case 5.—Nov., 1886. F., æt. 30. Under observation in hospital for some months. Severe pain and emaciation. Uterus fixed. Perhaps a case of old tubal disease. Laparotomy showed disseminated tubercle mesenteric and over the abdominal walls. Resected a small portion for examination. Washed out with mercuric bichloride solution and closed the abdomen. The miliary masses proved to be colonies of tubercular bacilli, and cultivations were made which reproduced true. Recovery followed, with an improvement of all symptoms. Patient sailed for Europe the following spring, and in a letter under date of August, 1887, she writes, "Am enjoying at present very good health, being able to work again."

Case 6.—February, 1887. Female, æt. 28.

Patient confined to bed with severe abdominal pains. Tumor on right side, reaching nearly to umbilicus, accompanied with many of the symptoms of pregnancy. Uterus evidently merged in the growth. Proved an ectopic pregnancy. Closed the wound. Miscarriage followed. Recovery complete and patient remains well.

Case 7.—April, 1887. F., æt. 30. Patient ill four weeks. Tumor on right side, growing rapidly. Exploration revealed cancer of omentum. Closed wound. Autopsy later showed round cell sarcoma. Thought result not materially changed by operation.

Case 8.—April, 1887. F., æt. 33. Pulse and temperature high, with severe pains caused by a tumor of right side extending to umbilicus. Although from subsequent history probably cystic, it was found everywhere adherent and judged malignant. Patient still living, but for the most part confined to the bed for the year. Tumor increasing in size, and again I have advised exploration with the hope of removal.

Case 9.—July, 1887. Dr. W., æt. 72. Sufferer for years from gall stones. Now *in extremis* from biliary obstruction. Laparotomy and found adhesions to ascending colon and the parts about. Could feel and probably dislodged, in a measure, a calculus, size of a walnut. It was thought not safe to proceed further, so closed the abdomen and improvement followed for a short period. Wound healed perfectly. Symptoms of obstruction returned and death supervened within a month. Autopsy showed a large impacted calculus and conditions which warranted the conclusion that the duct adhesions prevented a safe removal.

Case 10.—August, 1887. Boy, æt. 12. Perityphilitis. Freely separated adhesions. Patient recovered well from operation. Wound healed. Death about six weeks later from undetermined cause. Autopsy showed the intestine unobstructed, and only delicate bands to determine place of the extraordinary plastic effusion.

Case 11.—October, 1887. Child, æt. 2. Temperature 104° and pulse 140 to 150. Opened and washed out a large pus cavity involving appendix, drained. Improvement most marked from time of operation. Some weeks later enlarged the incision on account of return of fever, etc. Closed a fistula of the bladder by a continuous tendon suture and two openings in the large intestine which admitted finger, also the abdominal wall. Recovery complete and rapid. Child growing finely, and seems as strong as before her long illness.

From this report it will be seen, although the list of cases is small, that life was not seriously endangered by the operations, and in more than one instance, although seemingly only exploratory, the recovery was dependent upon the surgical interference. To write the opposite side of my experience would be to narrate a long series reach-

ing over more than twenty years of active clinical study, where the post-mortem revelations have taught the shortcomings of our art, and with regretful sadness caused us, at least, the contemplation of what might have been.

I am well aware that I am not alone in the consideration of exploratory laparotomy as to the views taken of the subject in this brief paper. Prominent among the contributions upon this subject, I take pleasure in citing an able article recently written by Dr. T. Gaillard Thomas, of New York City. In the light of the criticisms of a certain considerable and highly respectable class of the profession, raising the protest against what they deem an unjustifiable resort to laparotomy for abdominal disease, I can but believe that it emanates, as a rule, from men only theoretically interested in the subject. Of the quite large number of surgeons, in Europe as well as America, with whom I am personally acquainted, I know of no men more conservative in opinion, or who review with greater care and precision the premises upon which they base the advisability of operative interference, and only a long experience and extended observation has led them to accept exploratory laparotomy as, at times, the only means of a correct diagnosis.

Let us hope those younger in the profession who have entered upon its labors under more favorable auspices, will take heed to such warning, profit by the lesson it teaches, and remember that the future, if not the present, will regard the sins of omission in the same stern light as those of commission.

HYDRIODIC ACID. ITS USES IN GENERAL PRACTICE.

Read in the Section on Practical Medicine at the Thirty-ninth Annual Meeting of the American Medical Association, Cincinnati, May, 1888.

BY WM. C. WILE, A.M., M.D.,

EX-VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION;
MEMBER OF THE BRITISH MEDICAL ASSOCIATION; EDITOR
OF THE NEW ENGLAND MEDICAL MONTHLY, ETC.

The difficulties which were in the way of the use of hydriodic acid because of its rapid decomposition, were considered so unsurmountable, that it was not until the year 1878, when an unalterable syrup was presented to the profession, that it came into use. Soon after this, in 1880, my attention was attracted to an article by Dr. J. B. Oliver, of Boston, which was published in the *Boston Medical and Surgical Journal*, of the issue of March 4th of that year.

Dr. Oliver, in his paper alluded to the use of syrup of hydriodic acid, in the treatment of asthma, and in conclusion says, that Dr. Knight "had surprisingly satisfactory results," from the same remedy. Having under observation at this time a severe case of chronic asthma, complicated with chronic bronchitis, on which I had

tried iodide of potassium, which was intolerable to the stomach, I at once put the lady, a woman of 49 years, upon the syrup of hydriodic acid. The effect was all that could be desired. There was an almost immediate relief from the asthmatic conditions, rapid amelioration of the cough, decreased expectoration, which was very profuse before the exhibition of the remedy. The sputa which was thick and viscid, became thinner in character, and my patient's general health commenced to improve, and after three months of the use of the syrup of hydriodic acid, in increasing doses till two teaspoonfuls were taken three times a day, complete recovery took place, and from that time till her death of pneumonia two years later, had no relapse. The results in this case were so satisfactory, that ever since it has been my favorite remedy, *in all* asthmatic troubles, and though every case has yielded promptly and effectually as this one, still, I have never administered it in this class of diseases, without unmistakable evidences of relief and comfort. In chronic bronchitis of long standing, in my hands it has produced most excellent results, and can be given when the iodide of potassium cannot for a moment be tolerated. The cases which seem to derive the most benefit from this remedy, are that class of long standing bronchitis, when the lung seems about to take on a deeper seated and less tractable form of disease.

My attention has been frequently called, in the treatment of chronic bronchitis with hydriodic acid, to the fact that small doses, frequently repeated are of signal service, when larger doses do not seem to accomplish the same results. In fact, from long experience, I would suggest the constant use of the syrup in small doses, 15 drops, gradually increased a drop a dose, until the point of toleration is reached, in order to get the most satisfactory and lasting results. While practicing at Sandy Hook, Conn., I had the opportunity of observing its action in lead poisoning, in a great many cases, lead entering largely into the compounds which are mixed with the crude rubber during the process of manufacture. I depended almost entirely on the syrup of hydriodic acid for all forms of chronic lead poisoning. In lead paralysis, this remedy combined with keeping the bowels quite free, and the application of the Faradic current were the only means employed, and always with satisfactory and oftentimes surprising results. Wrist-drop and chronic abdominal pains would yield to the remedy, combined with saline cathartics. In scrofulous diseases, of children especially, does the hydriodic acid seem to produce most marvelous results. In infantile eczema, enlarged glands, cold abscesses, indolent sores, treated with small doses gradually increased until it is all that can be borne, will prove a source of great gratification to the patient, and gratitude towards the doctor.

At the suggestion of my friend, Dr. F. A. Burrall, of New York, I am using it in a case of obesity, with the result of steady diminution of the amount of fat, without a single disagreeable symptom, or interference with the general health, or the action of any of the functions of the body. In hay fever it has been used by other observers with good results, but my own experience with its use in this disease has been *nil*.

It is hardly necessary for me to more than say, that in all the latest stages and manifestations of syphilis, it has yielded its most magnificent results. Pleasant to take, rapidly pushed to large doses, I have found the most pronounced and favorable effects. Patients take it readily, and the improvement is so rapid and immediate, that they need no urging to continue its use for as long a time as the doctor deems desirable.

My paper has now reached the limits which I prescribed for it, but I cannot resist the temptation of recording briefly three of the most unique cases of my experience with this drug. The one was a man 42 years of age, who was a paper-box manufacturer, suffering from arsenical poisoning from the inhalation of arsenical dust arising from the glazed paper which he handled and cut. After repeated trials of other remedies, the syrup of hydriodic acid made a complete cure inside of a month.

In Danbury, the city in which I now reside, they make large quantities of hats; in fact, it is said that at least one-half of the hats made in the United States, are made in that place. To preserve the fur, "carrot" is used, which is composed largely of mercury; consequently, many of the hatters working in the plank-shop suffer from mercurial poisoning, and many from mercurial tremor and paralysis. No remedy has proved of so much value to me as the hydriodic acid. Always prompt in its effects and reliable in its results. The last case was one of chronic rheumatism in a man 37 years old. He was almost a complete cripple in his hands and feet, and had not done a stroke of work in two years. I had exhibited every remedy known to me, including electricity, massage, Turkish baths, colchicum, etc., but until I commenced the use of the hydriodic acid, no permanent improvement was made. After continuing its use for four months the patient seemed, and was to all appearances entirely well. For fear of relapse, he continued taking it for two months more, in order as he explained it, "to make assurance doubly sure." I do not believe that this remedy is enough understood, or the advantages it possesses over all other forms of iodide as thoroughly appreciated as it should be; but of this I am assured, that it will be tolerated by the stomach many times, when no other preparation of its class can be retained, and do work that none other will. It is scarcely necessary for me to

state, that I have never used any other preparation than that of the originator of the unalterable syrup, of Mr. R. W. Gardner, of New York.

THORACOPAGUS.

Read before the Medical Society of the District of Columbia, June 13, 1888.

BY D. S. LAMB, M.D.,
OF WASHINGTON, D. C.

I present, herewith, a double monster, known as a *Thoracopagus*. It was procured by Dr. E. C. C. Winter, who placed it in my hands for a few days. The mother was a young negro, and this was her first pregnancy. She stated that so far as she knew, there had been no deformity nor even twins in the family history of her husband or herself.

There is but one umbilical cord; for which reason the monster has been also called *omphalopagus*. There are two distinct heads and necks, and as is usually the case, one is smaller than the other. Indeed some writers affirm that one of a double monster is *always* the smaller. The bodies, otherwise than the heads of this specimen, do not show any marked difference in size. On one side the limbs are separate and perfect, on the other the arms coalesce, though from a superficial examination, I conclude that two sets of bones are present; the hands are separate; on the same side the lower limbs also are united like the arms, while the toes are separate, except that the great toes are fused. The trunks are joined a little to one side of the middle line, though no doubt the actual bony junction is by the sternum; whence the monster gets its name *sternopagus* or *thoracopagus*.

Dissection not having been permitted as yet, we can only infer the arrangement of internal organs from what is usually found in these cases. The heart is probably double; the alimentary canal is very likely in part common to both segments; the liver doubtless double, but the two organs joined by process of gland substance. The position of the anal openings is represented by two teat like prominences in the normal situation; while the genitals appear as two similar prominences in juxtaposition, and behind each of them a small opening. Doubtless females.

The size of the monster would indicate an age of about five months.

Although this specimen is the commonest kind of double monster, yet the shelves of the Army Medical Museum show but one specimen of this kind.

There are other specimens in which the fusion has also included the head; others in which it has included the face; others in which the head only is involved. Out of over twenty specimens, only two are human; a *thoracopagus* and a *proso-*

pothoracopagus; one of these was contributed by the Medical Faculty of Columbian College of this city, in 1867.

There are besides, however, a number of specimens in which one of the two segments of the double monster is much smaller than the other, so that it appears parasitic. There is an *acardiacus accephalus*, which was presented before this Society some years ago by Dr. Harrison Crook of this city. It may be called a placental parasite, because the parasitic segment which is without head or heart, and hence the name it bears, was connected to the same placenta as the antosite or host and depended upon the latter for its circulation. There is also a specimen of *thoracopagus parasiticus* from the human subject, a cast from the Warren Museum of Harvard University; and represents an infant which lived to the age of five months and had a parasitic infant, devoid of head and neck, and with only part of the trunk, the heart being absent, joined to the thorax of the host.

There is a specimen of *cephalo-thoracopagus parasiticus*, that is to say, fusion of both heads and thoraces. This was contributed by the Medical Faculty of Columbian College of this city in 1867. There is also a *teratoma* from the late Dr. Joshua A. Ritchie of this city. There are also specimens in which the duplicity is either anterior or posterior only. Altogether the collection is fairly representative with desiderata, however, especially in the matter of the human subject.

I put this matter in this shape to emphasize the desirability of making the collection, already valuable, even more so, by rendering it more complete; and for this purpose to enlist the interest of the members of this Society. I would add that all of the information I have given in regard to these museum specimens can be verified by any inquirer from the labels attached thereto.

The most interesting question, perhaps to all of us, is that of causation. What is the preponderating opinion now among investigators as to the cause of these monsters? I will try briefly to present the matter to you.

In the first place, since a monster may be single or double, it might be inferred, and truly, that the cause of the one was different from that of the other. Single monsters show arrest of development, or an absence of one or more parts. It is therefore called a monster by defect. Sometimes, however, there is instead, a deviation in structure or position of a part, as shown in transposition of the viscera of the thorax and abdomen. On the other hand, double monsters show us a fusion of two nearly similar individuals; or one of them may be poorly developed and therefore parasitic; or lastly, particular parts may be doubled or simply hypertrophied.

The cause must be one of two, unless it be both; namely, either inherent and inherited in the

ovum, or external. The probability seems to be that the influence of heredity in malformations is small; and chiefly limited to cases of slight importance, as hare-lip, cervical fistula, and excess of fingers and toes. Ziegler says: "The pathological peculiarities transmitted congenitally from parent to child manifest themselves less in anomalies of external form than in deficient or perverted function of the tissues, or in morbid predispositions. Such anomalies are to be detected only by minute anatomical examination, or they are incapable of anatomical demonstration at all."

In single monsters the cause may be usually set down as being either from disease or injury of the uterus or of the foetus; or possibly, at times, both. As to the uterus, there may be defective development or disease of the membranes; adhesion of the amnion to the foetus; abnormally small quantity of amniotic liquor; tumors of uterus; concussion of the uterus with separation of membranes; or hemorrhage into the membranes or their vicinity. As to the foetus, there may be inflammation transmitted from the mother; there may be inherited diseases, as syphilis; or there may be in the early stages of development, abnormal flexures.

These causes act either mechanically by simple pressure; or they hinder the circulation of the foetus; or directly destroy the parts involved, as in inflammation. More than one cause may act at the same time. The effect is usually as stated, arrest of development.

A very interesting point is the period of embryonic life at which the cause acts. The earlier the injury, the greater the effect; the loss of a few cells at an early period may involve the loss of a limb, but at a later period, may have no appreciable effect. Since the general form of the body is defined by the end of the third month, malformations, strictly speaking, should originate within that time.

We study double monsters from a different point of view. We go back to the blastodermic vesicle and find there two embryonic areas instead of one. In the segmentation of each of these areas, neighboring cells of the two may mingle to a greater or less extent and a double monster be produced. Or in place of two separate rudiments, we may have a cleavage of one mass of cells; complete or partial cleavage; the two masses thus formed may partially reunite, the result being the same as fusion of two separate rudiments. It seems to me that the weight of opinion is with the doctrine of cleavage. Two primitive streaks may appear in the same embryonic area, and subsequently two medullary grooves; these may remain distinct or may become partly blended. We may also suppose a primitive streak to remain single while the medullary groove is duplicated. In any case we assure a duplication of parts which are ordinarily single.

The cause of such cleavage is unknown. Marchand adduces observations on invertebrates which makes it probable that the admission of two spermatozoa to one ovum may lead to the formation of two centres of segmentation. Gerlach tried to produce double monsters by varnishing eggs before incubation, leaving uncovered only a Y shaped space over the region of the primitive streak, and succeeded in obtaining one case of anterior duplicity.

I might add that malformations have been produced by varying the temperature of the incubator; by raising the temperature too far above the normal; by varnishing the eggs; by placing them vertically; by prolonging the interval between the laying and incubation of the eggs.

Since we observe the same kind of malformations in the lower vertebrates as in the human subject, it follows that, the laws must be the same, and what is demonstrated in the former must inferentially hold good in the latter.

In conclusion I desire to suggest what has doubtless occurred to many others. It is this: The ancients constructed a mythology and, as the modern idolators, made images of cyclopians, and many headed, many breasted and many limbed figures. I do not think that they drew entirely on their imagination for these figures. I would rather think that they have copied from those single and double monsters which they must have repeatedly had before them from the various parts of the animal kingdom. The ignorant mind has a peculiar dread of such monsters and is even to-day disposed either to deify or demonize them.

A PATHOLOGICAL CHANGE AT THE BASE OF THE TONGUE, POSSIBLY EX- PLAINING CERTAIN SO-CALLED FUNCTIONAL DISEASES OF THAT ORGAN.

*Read before the Medical Society of the District of Columbia,
October 10, 1888.*

BY C. W. RICHARDSON, M.D.,
OF WASHINGTON, D. C.

During the last decade the advance in laryngology has been so great that the number of cases of nervous origin, or functional, has been so vastly reduced that the so-called nervous and hysterical cases are becoming rather limited in their number. It has only been within this period that attention has been called to several important pathological lesions situated at the base of the tongue giving rise to symptoms which seemed never to be relieved by the methods of treatment previously in vogue but now completely cured, enabling us to relegate a large number of so-called nervous cases to their proper sphere. It is in hope, by calling attention to some further changes in this organ,

of still further reducing the number of nervous cases that I present the following paper. We recognize, most thoroughly, that there are a certain number of cases presenting no pathological changes, due seemingly to perversity, that may forever belong to this sphere, but that there are still a large number that will be withdrawn from this field of uncertainty no one doubts.

On July 1, a lady was referred to me by Dr. H. D. Fry, who in a note stated that the lady supposed a fish bone to be lodged in her throat and she claimed the same having remained there since—a period of six weeks. She made the same statement to me and added that shortly after she made attempts to remove the object with her finger, but was unsuccessful. The bone continued to give her considerable annoyance, especially during the intervals between meals, causing her to make frequent efforts at "empty swallowings." While she could always feel the presence of the body yet its position was never such as to cause any interference with the act of deglutition, nor to any apparent obstructive sensations. She states that the swallowing of bread-crust would diminish, momentarily, the intensity of her sensations, which was no doubt due to the roughness of the bread "scratching" the mucous membrane. The supposed location, she states, was somewhat lower at first than at present. The location of the sensation frequently changed, at one time being on the right, again on the left side and then in the middle of the throat.

Such a history as the above, with regard to the change of location in the position of the bone, seemed quite unusual for that of a foreign body—such bodies, especially if pointed, usually remain fixed in the position they originally take. The pharynx and larynx I examined with the utmost care, although little expecting, on account of symptoms given, to find any trace of the supposed origin of the trouble. My examination not being attended with success, and as the patient was unusually tolerant, I determined to make a digital examination of her throat. This was also unsuccessful. I subjected her to three subsequent examinations, all of which were attended with the same result. The only deviation from the normal noticed in the throat, which arrested my attention during the first examination, was a peculiar vascular condition of the right base of the tongue. This condition I did not at first attach as much importance to as upon subsequent examinations and more mature consideration. A similar condition, attended with exactly an analogous train of symptoms, not arising from an analogous cause, we have since noted in another patient. The pathological change which I refer to is the existence of a small area of ecchymosis or submucous hemorrhage grouped together like a bunch of grapes. This area of hemorrhage effusion, or "spots" as I shall designate them, had the appearance as

though small red shot had been deposited beneath the mucous membrane. The area of effusion varied from one to one and a half centimeters in length and from one-half to three-fourths in breadth; while the individual spots varied from one-half to one millimeter in diameter. These spots while not being hard yet cause sufficient elevation of the mucous membrane to make them distinctly discernible to the sense of touch. As I have stated above, I noticed this condition during my first examination but almost immediately dismissed it from mind as I thought it probably due to the irritation caused by the presence of the foreign body. During my second examination these spots aroused my suspicion and I determined to touch them lightly with the probe. On touching the spots and requesting the patient to state whether I was near the point at which she located the sensation, she intimated that I had touched the exact point. She then informed me that she was now certain that I would be able to remove the object inasmuch as I had been so successful in going directly to the point where it was located. After three days she reported again, her face radiant, and greeting me with unusual cordiality, she stated that she had certainly felt the bone with unusual distinctness within the last hour. It had changed its position from right to left. On introducing my mirror I was somewhat surprised to find the same pathological condition manifested on the left side that I had previously noted, three days before, on the right. A few days later I noted a similar condition near the centre of the base of the tongue, and with this new focus an alteration of the supposed site of the bone to this new point. On each subsequent examination we noticed that the previously existing spots had diminished somewhat in area as well as distinctness. The effused blood gradually became absorbed.

On July 22 a lady whose daughter had previously been under my treatment, presented herself for the purpose of having her throat examined. Her train of symptoms were as follows: She had for several months, at varying intervals, a sensation in her throat as though something was lodged there which she must remove. This something felt scratchy, as she expressed it, very much as though there was a small area of roughness in her throat. She had had these same peculiar sensations some eight months before, but they had subsided after several weeks' duration. On different occasions she located the sensation in different positions—at one time to the right, again to the left, a little higher and then lower. She never suffered pain nor was there any obstruction of the throat or difficult deglutition. She had previously been under treatment. A spray had been placed in her hand which she was diligently using upon a normal nasal and pharyngeal mucous surface. On making a laryngeal examination I was very much

surprised by the great resemblance which this case bore to the preceding one; the whole mucous surface of the larynx, pharynx and naso-pharynx, excepting that portion covering the base of the tongue, had a normal appearance. The base of the tongue presented the same pathological change, the hemorrhagic effusion, which I had noted in the preceding case. Although my experience in the preceding case would have justified my concluding that there was a certain causal relationship existing between the pathological changes present and the symptoms manifested, I was not hasty in drawing a conclusion but rather waited for further developments.

Five days later, after an almost complete subsidence of all symptoms, as well as a diminution in size and prominence of the spots, many of the smaller ones having completely disappeared, she had an increase in the intensity of her symptoms, and on making an examination a new area of hemorrhage was visible, larger and more prominent, situated three-fourths of a centimeter to the right of the former area. I introduced a probe, and in order to avoid any possible error, told the patient to indicate when I had touched the point at which she located her abnormal sensations. When the probe came in contact with the first effusion she stated that there she felt an unpleasant sensation, but not until I passed gently over the surface of the new effusion did she give any evidence of certainty as to location. I now could hardly resist the conclusion that there was, in this case, a direct causal relationship existing between the pathological changes present and the symptoms manifested. In these two cases we have symptoms almost analogous, their origin ascribed to different causes, presenting pathological changes which are identical in their character. The important question is to decide what relationship exists, if any, as regards cause and effect between the only pathological change present and the peculiar train of symptoms manifested. It is important to decide whether the symptoms existing, necessarily nervous, gave rise to the pathological changes, or whether the pathological changes having been produced were the cause of the train of symptoms manifested. Supposing the phenomena to be of a nervous character, is it possible that the patient by repeated and frequent efforts at clearing of the throat, rasping and coughing—in the effort to remove the supposed foreign body—is capable of producing a hemorrhagic effusion in this position. Admitting the hemorrhage to be produced in the manner mentioned above—no pathological change being present—is it possible for the seat of the supposed foreign body to change from that at which it was formerly located to the seat of the effusion. The hemorrhagic effusion gradually undergoing absorption, with a subsidence of the symptoms, a re-occur-

rence of the effusion in a somewhat removed position being attended by a re-occurrence of symptoms in their original intensity—supposing no pathological change primarily to have been present—is it possible with the full disappearance of the effusion that the symptoms will also completely subside. In other words, is it possible for a purely nervous phenomenon to attach itself to a demonstrable pathological lesion, subside with the disappearance of the lesion, recur with its re-occurrence, and to disappear entirely with the disappearance of the lesion.

The first and most important interrogation to answer, is the one in regard to the possibility of the patient, mechanically, producing the pathological lesion mentioned. During the effort of clearing the throat as well as retching the tongue is entirely a passive organ, not sufficient muscular force being used to rupture a weakened arteriole even in a state of congestion; nor do I consider sufficient congestion of the vessels of this organ to be produced, during these efforts, to produce a rupture of the capillaries at its base. We have never before noticed an analogous condition in any throat, and if seen by others they have never attached sufficient importance to it to give it a description. It is quite possible that the condition may be the same as that known as milary aneurisms of the tongue. Butlin states: "Ecchymosis may occur in or beneath the mucous membrane from other causes than purpura;" he goes not farther, and does not mention the nature of other causes. In the cases here mentioned the patients were known not to have made any violent efforts, of the kind mentioned, and after coming under my care no efforts of this character were made, yet the effusion re-occurred several times in both cases. The burden of proof rests on the other side.

Admitting the possibility of the second supposition, which could be manifested possibly in certain phases of hysteria and melancholia—a laryngitis often causing the syphilophobiac to suppose that the chancre has re-appeared in his throat—we must admit that our patients were hysterical or melancholic. Our patients were robust women of a decidedly phlegmatic temperament, displaying no nervous phenomena of any character. They were of 50 and 45 years of age.

Even admitting the patients to be of a hysterical temperament, and the original phenomena to be hysterical, followed by the hemorrhagic effusion—mechanical in its origin—is it possible that the symptoms should disappear with the complete disappearance of the only pathological lesion manifested. I could hardly conceive of such a condition; therefore am rather forced to the conclusion that the hemorrhagic effusion was the original pathological lesion which gave rise to the subsequent symptoms.

In one case, that of the fish bone, the probable

irritant was a bone which may or may not have found lodgment in the throat. The foreign body, if it ever entered the throat, must have been immediately expelled by the effort of coughing, excited by its presence. I am rather inclined to believe that no such object ever found lodgment in the patient's throat; the effusion occurred about the same time, and she supposed the symptoms produced thereby to be the result of the fish bone. We know how unreliable the statements of patients are in regard to such matters. Patients very frequently persist in asserting that a foreign body is still lodged in the throat, weeks after the occurrence, when its lodgment was only momentary. In all cases where foreign bodies lie imbedded in the substance of the tongue it gives unmistakable evidences of its presence. *The wound does not heal* and it lies in the midst of an indolent tumor, the wound leading down to its surface. I think we must conclude that the fish bone never was present in this case; the eating of fish and the effusion occurring simultaneously, the patient immediately ascribes the phenomena produced by the effusion, to the lodgment of a bone. We can readily conceive how such would be the case, as a hemorrhage would be almost as sudden in its production—the train of symptoms as suddenly produced—as those produced by the swallowing of a bone.

In our second case we have a much simpler condition of affairs, and one in which there is not the same doubt as to the origin of symptoms. Here our patient came to me with a feeling of fulness in her throat, and the sensation of a foreign body lodged there—resembling very much the sensation imparted by a crumb of dry toast. These symptoms being greater at one time than another, and varying in their location. It seems to me that my position, at least in these two cases, is proven beyond doubt. We have here a pathological lesion, producing a train of symptoms which ameliorate and disappear with a diminution of and disappearance of the change; the symptoms to re-occur in their full intensity in another locality, with the reappearance of pathological changes in another position, the symptoms to completely subside with the disappearance of the lesion. The symptoms are somewhat analogous to those produced by enlargement of the glands at the base of the tongue, and to those arising from a varicose condition of the vessel in the same locality.

I can offer no suggestion as to the etiology or pathology of this condition.

1106 L Street, Washington, D. C.

THE next meeting of the Association will be held at Newport, Rhode Island, June, 25, 1889.

SUPPLEMENTARY REPORT OF THE USE OF SALOL IN TYPHOID FEVER.¹

BY R. H. DAY, M.D.,

OF BATON ROUGE, LA.

In the last days of September, 1888, I was called to see a patient suffering from typhoid fever, and I was led by some recent studies of the composition and therapeutic effects of salol to give it a trial in the case before me. I did so, and with such prompt and decided success, that I deemed it my professional duty to report my experience at once to the medical profession. To this end I wrote up a report of the case for the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and in the latter part of October forwarded it to the Editor, requesting its early publication. The Editor kindly accepted the article, and wrote me it would be printed as soon as it could be done in justice to other contributors.

Unfortunately, perhaps, the publication of my article was long postponed, owing to the many excellent papers on THE JOURNAL'S file ahead of mine; yet this delay enables me to contribute this supplementary report of a case similar in character to the first, and occurring in the same individual.

Willie Thomas, col., æt. 17, whom I discharged cured on the 3d of October, 1888, after going about for about four weeks in apparent good health, except being weak, was again stricken down on the 30th of November.

On the 3d of December I was again requested to see him. I found him lying on his back, his skin hot and dry, tongue coated dark brown, fissured and without the slightest moisture; front teeth, gums and lips coated with sordes; intellect dull and mind wandering, with muttering incoherency when dozing and frequently when awake; thin, dark, offensive stools four or five times in the twenty-four hours; urine scanty with considerable sediment, upon standing, of a pinkish and brick-dust color; abdomen more retracted than otherwise, with a sense of soreness upon gentle pressure over the whole abdominal region; no relish for food since his second attack. His pulse was very small, weak and up to 130 per minute, temperature 103.4°.

It was now just two calendar months since I discharged him cured of typhoid fever, and I recognized now the same disease and, having had such good results from salol in his previous sickness, I determined at once to give it another trial. Accordingly I prescribed 5 grs. of salol every three hours, and no other medicine to be given, that I might test salol upon its own therapeutic merits. I also directed the liberal use of port wine, Du-cro's elixir, and cow's milk with beef broth.

Two days subsequently I visited my patient and took with me my friend, Dr. J. W. Dupree,

¹ See p. 80 for original report.

to whom I had narrated his previous sickness and the success I had experienced in treating him with salol. Upon seeing the patient Dr. Dupree unhesitatingly pronounced the case typhoid fever and thought him dangerously ill, though I thought I could perceive some amelioration since my previous visit.

I continued the salol and kept up the nourishment, telling the mother if he ceased to improve or she should observe any symptoms of his growing worse, to let me know immediately. Suffice it to say that I saw my patient every few days for the next ten days, and each time with marked improvement, after which I discontinued my visits, leaving him convalescent and needing only good food to establish his returning good health.

This is the second case of typical typhoid fever in which I have given salol with eminent success; in this last case, not so prompt as in the first, which perhaps is easily explained by reason of the general impairment of his physical system by his previous sickness; but even in this last case I could discern in forty-eight hours the commencement of a salutary work. And in this last case salol alone was used, and to it, and to no other drug, belongs whatever good results were accomplished.

Now, in what manner salol acts upon the human organization to exercise such a curative power in typhoid fever, it is too recent before medical observers and workers, and its trials too few, to lay down any reliable theory.

But with my limited experience of its use, I would by no means restrict its application to the treatment of typhoid fever, for since I have commenced its use, I have repeatedly given it in the diarrhoeas and dysenteries of infants and children with the best results, and in the first week of January of this year, in an adult white male, Mr. E. T., attacked with *ilicilis*, having frequent and copious bloody watery stools, fever and great pain, prostration and soreness over the bowels, I used salol 5 gr. with pulv. ext. opii $\frac{1}{2}$ gr. every two to four hours, with prompt relief, and an established convalescence in forty-eight hours.

Judging, then, from my short but sharp experience, it appears to be suitable and useful in inflammations of the mucous coat, glands and follicles of the intestinal tract, upon which it appears to exert a prompt and peculiar beneficial influence.

Further observation and trial, and rigid scientific research must be instituted, before the merits of this new claimant to the confidence of the medical profession can be fully established and its true therapeutic value and range of application can be definitely settled, and be made of practical value to the medical profession.

Since the foregoing thoughts were written, I have read in the January number (1889) of *Gaillard's Medical Journal*, a most valuable paper by Dr. W. A. Cauldwell, of Chicago, on the "Rational

Selection of the Salts of Salicylic Acid for Therapeutics," taken from the *American Medical Digest*. I find in this paper many valuable suggestions relating to the rational use of salol in medicine, and that very favorable reports are made of its administration in diarrhoea by Dr. O. I. Osborne; and that Dr. James Barnsfather reports good results of its use in typhoid fever.

RETRO-PHARYNGEAL ABSCESS AND "HEN-CLUCK" STERTOR.

BY KENT K. WHEELOCK, M.D.,

OF FT. WAYNE, IND.

My apology for offering this oft-repeated tale to your readers is found in the fact that the basis of all true knowledge lies in observation and experience, and the further fact that the general practitioner, overworked, worried with waiting and watching the eventuation of a certain case, allows his mind to drift into a groove from which it is sometimes suddenly jerked by the rough jolt of death. And the further fact that the thinking mind, delicate as a galvanometer, takes cognizance of all externals calculated to make an impression upon it.

On March 16 I was asked by the father of the child, the history of whose case I am about to relate, to meet my friend Dr. F. Greenwell, of Hometown. I found a male child 11 months old, pale but well nourished, with a slight swelling on right side of upper part of neck in front of the sternocleido-mastoid muscle. A similar swelling had developed at the same region on the left side, which had eventuated in an ordinary abscess, and was opened by the doctor. Before the termination of the abscess on the left side the swelling on the right side made its appearance, and it was opened and discharged pus. After the last abscess was opened the child seemed to do fairly well till about two weeks previous to my visit, when croupy symptoms developed, coming on in the night, for which the doctor sent some temporary therapeutic agent which would serve till such time as he could see the child in person. The croupy symptoms grew worse and led to the belief that an abscess was forming in the nares so as to obstruct nasal respiration. When I saw the patient he was quite lively and able to nurse, yet continued effort at the nipple caused dyspnoea, to relieve which the child would let go the nipple and throw its head back. No pain attended swallowing, as he took large quantities of milk and water eagerly, the only remarkable feature attending such efforts being the rapidity with which he swallowed the fluid, showing that he was compelled to suspend respiration through the nose while the mouth was closed. After taking the fluids the child seemed exhausted and dropped off to sleep, at first breathing regularly enough with

stertor now and then. Soon the respiration grew more feeble and finally apparently ceased. He laid in this condition a few seconds and then suddenly awakened with an effort to catch his breath. At other times, generally between the stertor above spoken of and the apparent suspension of respiration, a peculiar clucking noise is heard, such as is made by the hen calling her brood together. It was this peculiar cry which led me to suggest that the trouble was, as I then said, "tracheal." I examined the nasal cavities carefully and found no evidence of obstruction beyond the swelling attending an ordinary cold, and passed a small bougie through the nostril to satisfy myself that there was no great swelling obstructing the nasal respiratory lumen. In examining the fauces by reflected light the mucous membrane of the pharynx had a normal pink tint. But the struggles of the child were such as to render the examination unsatisfactory without complete etherization. He was then completely subdued, and the result of the examination showed a plain right lateral bulging. Exploration with the finger rather confirmed the impression. Yet it would have been impossible to hinge a diagnosis upon tactile impressions alone. I made an incision $\frac{1}{2}$ inch to right of the mesial line and a little above the margin of the soft palate, into the most dependent part of the swelling. The child was carried rapidly forward on its face, when fully one-half teacupful of pus and blood passed out upon the floor. That night the child slept without any difficulty and was decidedly relieved. On the next day I again saw the little patient with the attending physician, when all the symptoms causing the previous alarm had disappeared. The child vomited after etherization, throwing up some more pus and blood. The swelling on the right side of the neck had disappeared and the skin was thrown into delicate folds such as are seen when there has been a circumscribed swelling with subsequent relief of pressure. The child is scrofulous, and at this time the father had suffered from a series of abscesses, amongst which was one of the middle ear. Fleming seems to have been the first to give a detailed report of retro-pharyngeal abscess, in the *Dublin Medical Journal* for February, 1850, and Henoch says that he owes the diagnosis of his first case to having read this report only a few days before. The symptoms, as set forth in Henoch's "Lectures on Diseases of Children," do not differ except as to detail from what was observed in my patient. The essential feature "is a snoring sound, especially during sleep." I have not seen this peculiar cry referred to by any author as resembling the cluck of a hen, but it struck me as being so eminently similar that I believe retro-pharyngeal abscess with pressure about the glottis may be predicated upon the "hen-cluck stertor" being heard. The post-mortem in West's first case is here appended:

"On dividing the cervical fascia on the right side a thick yellow, healthy pus poured out. This matter had burrowed close to the œsophagus, to within a little more than an inch of the clavicle, and also in an oblique direction behind the œsophagus toward the left side, completely detaching it from its communication on the right side, though not on the left. It passed up behind the œsophagus and pharynx quite to the base of the skull, a few shreds of cellular tissue bathed in pus being all that remained of their attachments. The tonsils were not enlarged and the glottis was neither red nor swollen."

MEDICAL PROGRESS.

YELLOW FEVER GERM. — A dispatch from Columbus, O., in the *Baltimore Sun*, says: "Professor H. J. Detmers, of the Ohio State University, has concluded the task of photographing the yellow fever germs that had been sent him by Dr. James E. Reeves, of Chattanooga, Tenn. The professor says this is the first time that yellow fever germs have been found in the tissue, scientists heretofore searching for them in vain. They have been found in zooglœa masses in the capillary blood-vessels, which appear distended and ruptured, and at these ruptures these zooglœa masses are dense and large. The bacilli present themselves in four forms; the first in a plain, dark, round mass; the second an oval, with a dark point at each extremity; the third, an oblong disc with dark points, as in the second, and fourth two darks united by a film, and strikingly resembling a dumb-bell. Being asked as to how the discovery regarding the cause of the yellow fever came to be made, he said: 'Dr. Sternberg, of Johns Hopkins University, for a number of years has made exhaustive searches for the yellow fever germs, but without success, in the tissues. During the last epidemic he made several post-mortem examinations at Decatur, Ala. Liver and kidney tissue of two persons at least were sent by him to Dr. Reeves for the purpose of mounting for microscopical purposes. I have several negatives, each of which is good. Some show the bacteria singly, others in masses with the capillaries distended with them.'

"Dr. George M. Sternberg is a surgeon in the United States army, and is doing his laboratory work in Baltimore at the Johns Hopkins University. He has been engaged during the past two years in investigating yellow fever under orders from the President of the United States, and in compliance with an Act of Congress making an appropriation for this purpose. Last year he visited Brazil and Mexico in the prosecution of his investigations. He also went to Havana, and in the autumn to Decatur, Ala., for the same purpose.

"He says that the announcement that Dr. Reeves has discovered the specific germ of yellow fever is entirely premature. Dr. Reeves has found bacilli in the tissues of one or more cases of yellow fever which occurred during the recent epidemic in Decatur, but bacilli had previously been seen in yellow fever tissues by Dr. Sternberg and others. Last spring in Havana Dr. Sternberg obtained by cultivation from the liver in two cases and from the kidneys in four cases bacilli resembling those which have been found by Dr. Reeves and probably identical with them. A detailed report with reference to the various microorganisms which he has encountered in the tissues and in the alimentary canal of yellow fever patients will in due time be submitted by him to the President of the United States. In the meantime he calls attention to the fact that the finding of bacilli in the tissues of one or more cases of an infectious disease is a long way from making the scientific demonstration that these are the specific cause of the disease."

THE KNEE-JERK IN DIPHTHERIA.—In a note on the knee-jerk in diphtheria Dr. W. B. HADDEN, in the *Lancet*, says that so long as this remains absent the patient cannot be considered free from the risks of paralysis and of cardiac failure.

BEER COMPARED WITH OTHER ALCOHOLICS.—For some years a decided inclination has been apparent all over the country to give up the use of whisky and other strong alcohols, using as a substitute beer and other compounds. This is evidently founded on the idea that beer is not harmful, and contains a large amount of nutriment; also that bitters may have some medical quality which will neutralize the alcohol which it conceals, etc. These theories are without confirmation in the observation of physicians. The use of beer is found to produce a species of degeneration of all the organs. Profound and deceptive fatty deposits, diminished circulation, conditions of congestion, and perversion of functional activities, local inflammations of both liver and kidneys are constantly present. Intellectually a stupor amounting almost to paralysis arrests the reason, changing all the higher faculties into a mere animalism, sensual, selfish, sluggish, varied only with paroxysms of anger that are senseless and brutal. In appearance, the beer-drinker may be the picture of health; but in reality he is most incapable of resisting disease. A slight injury, a severe cold, or a shock to the body or mind, will commonly provoke acute disease, ending fatally. Compared with inebriates who use different kinds of alcohol, he is more incurable, and more generally diseased. The constant use of beer every day gives the system no recuperation, but steadily lowers the vital forces.

It is our observation that beer-drinking in this country produces the very lowest kind of inebriety, closely allied to criminal insanity. The most dangerous class of ruffians in our large cities are beer-drinkers.

Recourse to beer as a substitute for other forms of alcohol merely increase the danger and fatality. —*Scientific American*.

LEUCOPLASIA AND CANCROID OF THE VULVO-VAGINAL MUCOUS MEMBRANE.—BESC.—*El Progreso Ginecologico y Pediatra*, July 25, 1888. The following are the author's conclusions:

1. Leucoplasia, which has been described heretofore, as it appears in the buccal mucous membrane, appears also in the vulvo-vaginal mucous membrane.

2. It is an affection which is characterized by white patches, and its lesions consist in a thickening of the epithelial coat and the corium.

3. Like buccal leucoplasia, the form which involves the vulvo-vaginal mucous membrane may be the first step in the evolution of papilloma and canceroid.

4. Leucoplasia and canceroid are distinct affections: the first plays the part of an irritant and prepares the soil for the evolution of a second.

5. In regard to treatment:

a. The leucoplasia patches must be treated in the beginning with hygienic and medicinal means.

b. If the patches are rebellious to treatment, and are circumscribed, they should be extirpated.

c. If papillomata have developed, they should be removed as thoroughly as possible, the section extending well beyond the limits of the diseased tissue.—*Annals of Gynecology*.

THE TOXICOLOGY OF COCAINE.—M. MUSSI, in *Annales de la Société Médico-Chirurgicale de Liège* has applied his investigation to the problem of how much of the alkaloid could be recovered in cases of poisoning by cocaine.

He experimented on rabbits which had been subjected to the subcutaneous injection of fatal doses of cocaine. To isolate the alkaloid he employed the proceeding of Stas-Otto, slightly modified.

He was not able, 48 hours after death, to find cocaine in the vitreous humor, the brain, the liver or the kidneys. The heart, the blood and the lungs furnished traces. Four days after death, the alkaloid had completely disappeared from all the organs.

The author concluded by expressing the opinion that in fatal cases of cocaine poisoning it will not be necessary for the most expert chemist to attempt a quantitative research, for in the majority of cases it will furnish no indication of the dose absorbed.

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SATURDAY, JANUARY 26, 1889.

REPORT OF THE SURGEON-GENERAL
OF THE ARMY.

SURGEON-GENERAL MOORE has just made public his annual report. In all financial matters the report covers the operations of the fiscal year ended June 30, 1888, from the appropriation made by the Act approved February 9, 1887, for the expenses of the Medical Department of the Army. The money value of the medical and hospital supplies issued during the fiscal year was \$178,034.11, and the Surgeon-General estimates that the cost will exceed that amount for the current year. In regard to the employment of "contract surgeons" and the Hot Springs Hospital, the Surgeon-General says:

"The limited number of contract surgeons allowed by law necessitates the employment of private physicians, under existing regulations, to furnish medical attendance to officers and enlisted men at stations where there is no medical officer of the Army. These physicians are paid by the visit from the medical and hospital appropriation. Added to this is the necessary expenditure for the employment of skilled nurses for the proper care and treatment of cases of epidemic and contagious diseases.

"The merging of the appropriation for the maintenance of the Army and Navy Hospital, Hot Springs, Ark., into the appropriation for the Medical and Hospital Department by the Act, approved September 22, 1888, adds to the amount to be expended for the pay of employes, the pay-roll of said hospital, which has been at the rate of \$12,000 per year. The amount fixed by said Act for pay of employes is \$42,000, which in my judgment will not be sufficient to meet the necessities of the service for payment of employes at the medical purveying depots, medical directors' offices, and the U. S. Army Dispensary, Washington, D. C., heretofore allowed by law at \$36,000, and paid from the appropriation for the Medical and Hospital Department—and, in addition thereto, the employes of the Hot Springs Hospital. The limit should therefore in my opinion be not less than \$48,000.

"The order of the President, prescribing the regulations for the administration and government of the Army

and Navy Hospital, Hot Springs, Ark., provides that the employes of said hospital shall be *civilians*."

The bulk of the report is on the "Health of the Army," which covers a different period of time from that given in the financial statement, as it is made for the calendar year which ended December 31, 1887. The report states that

"To facilitate the study of the influences exerted upon the health of troops by peculiarities of environment, the territory of the United States, over the whole of which the Army is dispersed in numerous small commands, has been divided into regions, each of which is characterized by distinct physical features and climatic conditions, and the various items of information embodied in this report have been arranged as far as possible in accordance with that division. Following the statistics relative to the health of the troops serving in the different regions, the subject of the health of the whole Army receives consideration, and the principal facts in connection therewith are given.

"The regions into which the country has been divided for the purposes of this report are eleven in number, as follows: The Atlantic Coast, Eastern Timbered Plains and Hills, Appalachian, Northern Lakes, Central Timbered Plains and Hills, Alluvial, Gulf Coast, Prairies, Great Plains, Cordilleras, and Pacific Coast. Some of these regions, on account of their great extent north and south, have been subdivided into groups of military posts."

For those of mathematical turn of mind the succeeding fifty pages may be of thrilling interest, but it is of real importance to those concerned in maintaining the health of the Army. The remaining pages are of general interest to the profession.

"The number of cases treated in hospital during the year was 14,403, in quarters 14,800, and in the field 524, giving admission rates of 621, 604 and 22, per 1,000 of mean strength of the whole Army, respectively. For 1886 these rates were 546, 688 and 29.

"Counting admissions to sick report of every description, the average loss of time on account of sickness during the year was 15.5 days for each man in the Army, showing a change for the worse as compared with the previous year, the average for 1887 being 1.1 days higher than that for 1886, and only .6 of a day lower than that for the previous decade. The average for the colored troops was 16.8 days, and for the white 15.3.

"The ratios of constant non-effectiveness, per 1000 of mean strength, of the various armies are as follows, arranged in the order of their relative positions: Great Britain (1885), 57.9; United States (1887), 42.38; United States (1876-1885), 44.0; Austria (1886), 41.0; France (1884), 39.3; Prussia and Württemberg (1881-1882), 38.9; Italy (1885), 33.4; Belgium (1886), 28.8.

"The ratio of non-effectiveness due to diseases was 33.70, per 1000 of mean strength (white 33.47, colored 35.84); that due to injuries was 8.68 (white 8.52, colored 10.23).

"The constant non-effective rate of patients treated in hospital was 28.37, in quarters 13.62, and in the field .39, per 1000 of mean strength of the whole Army, against 25.93, 12.69, and .79 for the previous year. The fact that the admission rate of patients treated in quarters was higher than that of patients treated in hospital, while the non-effective rate of the former was less than one-half that of the latter, goes to show not only that the disabilities treated in quarters were relatively much less important factors in the impairment of the efficiency of the Army, than those treated in hospital, but that, as previously stated, the total admission rate can not be safely used for purposes of comparison, or be considered a reliable index of the health of the Army."

Concerning the Hygiene of the Army, the Surgeon-General says:

"The sanitary reports received from medical officers during the year ending December 31, 1887, bear evidence that the important duty of supervising the hygiene of the commands to which these officers were attached was performed by them, as a rule, with a full appreciation of the great responsibility devolving upon them, and with a commendable degree of intelligence and discretion.

"In the majority of instances the post surgeons received the cordial support and coöperation of their immediate commanders in the sanitary measures recommended, and, so far as the means at hand would permit, those measures were generally carried out.

"But, notwithstanding the vigilance of medical officers and the active efforts of commanding officers, the fact remains that the sanitary conditions which prevail throughout the Army are in many respects susceptible of great improvement. Some of these conditions are, beyond a doubt, already operative in the impairment of the health and efficiency of the Army, while others may become so to a most disastrous extent under contingencies which are by no means improbable or remote. The offensive and dangerous privy; vault and cesspool are still in common use; lack of proper bathing facilities continues to be a constant cause of complaint; overcrowding of quarters and insufficient ventilation are frequently reported; the water-supply of certain stations is inadequate, and at others there is reason to fear its pollution; the drainage of many posts is defective; the uniform clothing is found to be altogether unsuited to the requirements of the men in hot climates;¹ and the issue of salt pork as a part of the ration is generally condemned at Southern stations, as is the deficiency in the food supply at some of them, which compels enlisted men to contribute to the purchase of fresh vegetables out of their own limited means, while at the same time the proceeds of the sale of a portion of the ration are devoted to the maintenance of a regimental band, and to other purposes entirely foreign to that of feeding the soldier.

"To remedy these evils drastic measures are required; antiquated methods must be abandoned; traditions of the service must be disregarded, and individual opinions and preferences must be overruled, where any of these conflict with the teachings of modern sanitary science. But little can be accomplished in this direction without vigorous and decisive action on the part of the higher military authorities. Such action is urgently demanded, and, in order that it may be followed by the best results, it should be taken in accordance with a plan so carefully considered and comprehensive that not only will the removal of existing evils be provided for, but their avoidance in the future will be insured."

The work of the Record and Pension Division, as stated on page 137 of the report, is a gratifying evidence of the ability and efficiency of the officers in charge of that Division, and exhibits a marked improvement on former reports. The application of the card index system to hospital registers, first recommended, we believe, by Dr. Ainsworth, is one of those labor-saving appliances that makes one wonder why it had not been thought of before. The museum now has a total number of

specimens of 26,695, of which 833 were received during the past year. There were presented to the library 269 books and 5,212 pamphlets during the year, and this great medical library now has a collection of 130,614 medical books, bound medical journals, theses and pamphlets.

In regard to medical officers, the Surgeon-General states there are no vacancies at present. The deaths for the year include those of Surgeon Spencer, and Assistant Surgeons Dickson, Cunningham, King and Azpell. There are 8 medical officers awaiting retirement, and 15 on sick leave, and the service is seriously embarrassed in consequence. General Moore recommends an increase in the corps of twenty Assistant Surgeons. It is a little remarkable that the medical officers of the Army are discriminated against in the matter of retirement. Whenever a vacancy occurs on the retired list of the Army, that vacancy is said to be invariably filled by the retirement of a line officer. This is, however, not stated in the report, but is a matter of comment in medical circles at the Capital. Taking the medical corps of the Army as a whole, they have much less ground of complaint than any of the other branches of the public medical service, and it is pleasant to see on record such gratifying evidence of the efficiency and general ability of the corps.

ON DISTINCTIVE DRESS FOR PHYSICIANS.

"De noche todos los gatos son pardos."—*Nuñez*.

An interesting young college-graduate, whom we may call CELSUS, junior, recently made a proposition, taken up seriously in some quarters, that all physicians should wear some distinctive dress or badge, whereby a gentleman would be known to be a physician at all times, and in all circumstances.

The ostensible object of such distinctive dress, was so that in case of accident, poor suffering humanity might more speedily be relieved. It strikes us that this proposed return to mediæval cruelty would cause as much suffering as it would remove. Think of the sufferings of the young physician going to opera with his innamorata, if forcibly seized at the doorway of the theatre by a policeman and *volens* dragged away to set a broken leg, or attend an immigrant child suddenly seized

¹ Since the close of the calendar year 1887, for which this report is made, the Quartermaster's Department has prepared and issued to the troops in the Department of Texas, and in a portion of the Department of the Missouri, clothing especially intended for wear in hot climates, which, it is hoped, will remove the cause of complaint against the uniform referred to above and in subsequent pages of this report.

with a fit. But as an advertisement it would a long way excel the happy device of Bob Sawyer, late Knockemoff, who always managed to be sent for just before the sermon commenced, but sufficiently long after the opening exercises, to insure the full notice of the congregation. It is within the memory of many, when no general practitioner in England or on the Continent went without his tall hat, his ruffled shirt, broad shoe buckles and gold-headed cane, and it was only in the last century when one must wear the silk full hosiery, the smalls, the lace sleeves, the variegated waist-coat, the peruke, and the flowing ribbons, such as Mr. Joseph Jefferson permits us to see when in "The Rivals" he personates Bob Acres. But, our young friend will say, "there is no need to act silly, nor because a man is faultlessly dressed, need he be a fop."

This might lead us to inquire what is faultless attire? Surely not the ribbons, spangles, and curled wig of the Bob Acre's family, for as Humphrey Clinker said these were "ridiculous modes, invented by ignorance, and adopted by folly"—what Swift once called a "volcano of silk, with lava buttons."

The fact seems to have been, that the old picturesque costumes were abandoned, as Farquhar said, because "here's such a plague every morning, with buckling shoes, gartering, combing and powdering," that the burden of dressing became insupportable, and fashions were adopted, which, if neither beautiful nor æsthetic, are at least comfortable, and easy of adaptation.

We very much fear that whether CELSUS, junior shall advocate a return to the old costumes, or the creation of new, he will be doomed to disappointment. Even the wearing of a distinctive button will scarcely be agreed to, as when liberty has once been granted it is not easy to put on the yoke, and one derisive joker has already rather unfeelingly suggested that the design for the button should have a pill tile for the escutcheon, bear a hypodermic needle rampant, and an unpaid bill *gules* as a bar sinister.

THE ACTIVE PERIOD OF INFECTION IN SCARLET FEVER.—The period of activity of infection in scarlet fever is discussed by Dr. Arthur Whitelegge in the *Lancet*, and he alleges that there is a sudden decrease in the infectivity about the sixth day, which is restored about the twelfth.

EDITORIAL NOTES.

PHILADELPHIA'S DEATH-RATE.—The vital statistics of Philadelphia for 1888 furnishes a text for the *Medical Register*, which calls attention to the fact that the health of the city has improved, even in the face of a bad sanitary condition. This is accounted for in the exodus of the middle and lower classes to the suburbs which has taken place in the past few years. The death-rate from consumption shows a marked decrease since 1884.

THE PENALTIES OF EVOLUTION.—In answering negatively the proposition, "Are quadrupeds subject to the hæmorrhoidal disease" Dr. William Bodenhamer remarks, in the *New York Medical Journal*: "If it is true that the erect position of man is the only predisposing cause why he is subject to hæmorrhoids, and why quadrupeds, in consequence of their prone position, are not, it affords a strong argument in favor of the Darwinian theory that we were originally quadrupeds—that the posture of our bodies was prone, not upright as now. In view of this predisposing cause, it would appear, then, that hæmorrhoids are alone the heritage of man in his present exalted posture." The Doctor might have added that quadrupeds are not subject to inguinal hernia.

SHALL INEBRIATES HANG?—The position taken by a writer in an Eastern journal that "the death penalty as a means of punishment for inebriates (convicted of a capital crime) is opposed by all the teachings of science and experience," is controverted by Dr. Washington Ayer in the *Pacific Medical Journal* for January. Dr. Ayer says "a man is responsible for every voluntary act, inebriety is a voluntary act, therefore a man is responsible for being drunk, and if he become unduly excited by reason of being drunk, he cannot be relieved of the responsibility of any criminal act, save it be in self-defense or in defense of his honor."

BOOK REVIEWS.—Our readers are informed that the Editor of THE JOURNAL is responsible for all book reviews and notices that are unsigned. All such reviews and notices written by others will bear the initial of the author.

THE FRENCH MILITARY MEDICAL SCHOOL.—The French Chamber of Deputies has voted over thirty thousand francs for the school for military sanitation, which is re-organized on a basis which

includes a contract for six years' army service upon those who have the advantage of a course in the school of military application of medicine and pharmacy.

CHANGES IN PERMANENT OFFICERS.—Dr. Laine has been selected to succeed Dr. Tyrrell as "permanent secretary" of the California State Board of Health. The absence of permanency is troubling the friends of Dr. Tyrrell. The discussion of the ethics involved fills several columns of the *Pacific Medical Journal*.

PROGRESS IN ROME.—According to *Riforma Medica*, a recent decree, authorizes the creation of a Government vaccinal institute at Rome. It will be under the charge of the Direction of Public Health and supervision of a commission composed of the Director of Public Health, a General Army Surgeon, and of the President of the Faculty of Medicine of Rome.

THE *Memphis Medical Monthly* is out in a new cover. The design of the title is neat and appropriate.

DR. HODGHEAD AS AN EDITOR.—D. A. Hodghead, A.M., M.D., has succeeded to the editorial and business control of the *Pacific Medical Journal*, and greets his new constituency with a vigorous exposition of the aggressive policy he intends to pursue in the conduct of the paper.

NEW COLLEGE BUILDING.—The new building of the Medico-Chirurgical College and Philadelphia Dental College is to be opened this afternoon.

THE officers of the Medical Society of the District of Columbia for 1889-90 are: President, Dr. C. E. Hagner; Vice-Presidents, Dr. McArdle and Fry; Treasurer, Dr. Franzoni; Corresponding Secretary, Dr. T. C. Smith; Recording Secretary, Dr. S. S. Adams; Librarian, Dr. Mundell; Examiners, Dr. S. S. Adams, G. Wythe Cook, Kleinschmidt, H. L. Johnson and Acker; Censors, Drs. Winter, Frederick and Ober.

OBITUARY.

DEATH OF MRS. GARCELON.—The death of Mrs. Olivia Spear, wife of ex-Governor GARCELON of Maine, is announced. Dr. and Mrs. Garcelon were welcome and familiar figures at the meetings of the American Medical Association, the members of which will be grieved to hear of the demise of this estimable lady.

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, December 6, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D.,
IN THE CHAIR.

DR. WM. GOODELL showed a

RECURRENT INTRALIGAMENTARY CYST,

removed without entrance into the peritoneal cavity.

The patient, a lady æt. 31, at the age of 18 had an ovarian cyst removed by Dr. Joseph Schmetter, of New York, who, in answer to a letter of inquiry, was kind enough to write the following description of his operation: "The cyst had no pedicle and was attached with a very thick mass of fibrous tissue to the right side of the uterus. This attachment being very vascular, it was necessary to ligature in several portions the parts representing the pedicle, and to sew them into the incision of the abdominal integuments for the purpose of being able to control the secondary hemorrhage, if any should occur, which in fact took place several days after the operation."

On December 1 Dr. Goodell operated on her. The fistula was first enlarged so as to admit the finger. As this gave no satisfactory information, the incision was lengthened in the old cicatrix to about 4 inches. This revealed a solid colloid tumor about as large as a cocoa-nut. It was firmly adherent to the cicatrix, to the abdominal wall in front and to the left side. When the lateral adhesions were severed a very large amount of pus escaped from the wound, and the hand now entered into a capacious cavity wholly shut off from the peritoneal cavity by walls of thick pyogenic membrane, which at the navel looked like a false diaphragm. Into this cavity the colloid tumor hung, as if it were suspended. That is to say, while its upper and right lateral surfaces were firmly and closely adherent to the abdominal wall, its under or lower surface, free from adhesions, projected into the fluid of the abscess cavity. A short and slender pedicle, running from the lower end of the tumor, was lost in the pelvic floor of pyogenic membrane. Where this pedicle ended it was impossible to discover, as not a pelvic organ could be felt through this thick membrane, but it was closely adherent to the lower abdominal wall, from which it was detached before being tied and cut.

The tumor was now cut open and its size lessened by digging out its contents with the finger-nail. When it was removed free hemorrhage occurred from the broken adhesions. This was checked by Monsel's solution and by the free application of vinegar, a pint of the latter being

poured into the cavity and splashed about the bleeding surfaces. This large cavity was then treated by the capillary drainage of Mikulicz, viz.: by packing it with iodoform gauze.

Since the operation the patient has done unexceptionably well, the temperature being always natural and the pulse not more frequent than it would be in a person so reduced as she is.

In reviewing this curious case it seems to me that the original tumor removed was an intra-ligamentary cyst of the right ovary; that, as he suspected, a small piece of the cyst wall was left in that portion of the broad ligament which was made the pedicle, and sewed into the abdominal incision, and that *pari passu* with the growth of this fragment of the cyst, an abscess had formed between it and its capsule of broad ligament which formed the walls of the abscess. The 4-inch incision into the abdominal wall did not open into the peritoneal cavity, but merely into a vast pus sac. The tumor was therefore a recurrent intra-ligamentary cyst, and wholly extra-peritoneal. The wonder to me is that this lady bore for so long a time so large an abscess without losing her life.

DR. GOODELL also showed an ovarian cyst which he had removed a few hours before, and in which the characteristic green hue of necrosis was marked. Torsion of the pedicle occurred one month ago, characterized by severe pain and emesis. After this the woman gradually failed in health and lost flesh from chronic blood-poisoning. A few hours before the operation an attack of pain and vomiting took place. The cyst was universally adherent to the abdominal wall, intestines and omentum. The pedicle, a very slender and short one, was so twisted as to stop all circulation, the cyst being nourished merely by its adhesions.

DR. GOODELL showed a specimen of what he deemed to be an *Extra-Uterine Fætation*. A healthy lady æt. 33 had been married thirteen years without conceiving. On November 25 she consulted Dr. Goodell about pelvic colics, irregular hemorrhages, painful defecation and occasional pains running down the left leg. He found a small womb, pushed forward and to the right by a boggy tumor, lying to the left in Douglas' pouch. Diagnosis of extra-uterine fætation was made and early operation insisted upon. November 29, while she was in his private hospital, a fifth attack of pain of a "bursting feeling" aroused her out of a sleep. This was followed by faintness. About six hours after this attack laparotomy was performed. As soon as the cavity of the abdomen was opened a large amount of black blood, of the consistency of thin molasses, welled out. Several knuckles of intestine were also forced out. The right ovary was sound, but the left could not be discovered. In its place was found an irregular cavity, within which was

found a tumor about the size of an egg, containing within its sac layers of coagulated blood. It was attached to the broad ligament, which was tied and cut off. A number of old clots and shreds of fibrin were flushed out of the abdominal cavity. A drainage tube was put in and the wound dressed with iodoform gauze. The tube was removed December 3, and the patient has thus far had an uninterrupted convalescence.

DR. BALDY, who was present at the operation, had cut the specimen open. He said that the mass contained a semi-fluctuant tumor the size of a small egg, and which he felt confident contained the fœtus before it was opened. On being laid open it appeared like a large blood clot, parts of which had undergone degeneration, presenting a mottled appearance. A small portion of normal tube seemed to run directly into this mass and, as it reached it, spread its coats out over the mass. The ovary was nowhere to be found. He believed that the mass was blood clot, but could not explain its occurrence. The fœtus was not found.

On motion of Dr. Baer the specimen was referred to the Committee on Morbid Growths.

DR. JOSEPH PRICE read a paper on

TUBAL DISEASE A PRIMARY CAUSE OF INTESTINAL OBSTRUCTION.

In reporting cases he had repeatedly called attention to the frequency of adhesions occurring between the uterine appendages and some part of the intestines, and his present purpose was to emphasize the importance of recognizing the danger of obstruction of the intestine arising from inflammatory conditions of the pelvic viscera. In the cases operated on the past year, in more than 15 per cent. there were noted "dense, firm adhesions" between the intestines and uterus and appendages, malignant cases not included. In every case, with one single exception, the inflammatory conditions causing the adhesions apparently originated in the uterine appendages. First, as to the form or kind of obstruction likely to occur. The inflamed serous surface of the diseased tube or ovary, coming in contact with a loop of intestine, or an edge of omentum, provokes inflammation there, and with characteristic promptitude these surfaces cohere. If the process is not severe and of slight duration, these adhesions may disappear as promptly as they occurred, by the enormous absorptive power of the peritoneum, hastened by the mild influence of the peristalsis of the bowels. If, however, the inflammation is severe or assumes a chronic condition, these adhesions gain in extent and strength and give rise to all the variety of conditions classified by Treves as "strangulation by hands." In most cases where these adhesions occur there is a history of constipation. It is probably due as much to the pain caused by defecation as to interference by the condition. Again, the pain is often so great as to

mislead the physician into thinking that a more virulent inflammation exists than really does. But the pain is not always proportionate to the amount of mischief. I have seen cases in which a mere omental adhesion has caused most agonizing pain. For instance, I recently saw a case in consultation, a woman who had had the appendages removed for backache some time before, and who suffered excruciating pain, especially on defecation. In this case the only lesion found was the omentum firmly adherent to the original incision. The omentum here was much elongated, and the transverse colon was dragged below the level of the umbilicus. In like manner I have seen the omentum adherent over the entire pelvis, dragging the transverse colon so out of place that a twist or kink of the bowel could be very easily formed. It is not at all rare to find the vermiform appendix glued fast to the uterine appendages, while almost any loop of the small intestines may become adherent to the inflamed pelvic viscera. As I have said, these adhesions vary in extent and density from those that will tear like wet tissue paper to those so well organized that it requires the scissors to release them, and it is not rare in pus cases for the bowel to be almost gangrenous about these points of adhesion and, in fact, to tear through. That adhesions do not cause complete occlusion at the time of their formation oftener than they appear to is no reason for regarding them lightly, for Mr. Treves tells us in the series of cases he studied that the average duration of the interval between the causation and the obstruction was three years; the shortest period being five weeks and the longest twenty-one years. In view of these general considerations it is hardly necessary to insist upon the release of the intestine wherever and to whatsoever extent adhesions exist. For if the surgeon leaves adhesions when he closes the abdomen, he leaves a probable cause of future serious trouble.

DR. WILLIAM GOODELL said that his experience in ovariectomy led him to say that it is a mistake to postpone the opening of the bowels to a late period. He used to follow the old plan of not giving a cathartic until the eighth day, but he was confident that he had had death result from intestinal kinks, from adhesions, making it impossible for the bowels to be moved. He now gave an aperient or an enema on the fourth day, and earlier if any symptoms such as vomiting and tympanites, present themselves.

DR. B. F. BAER said that once he had kept the bowels confined after laparotomy, but now he had them moved on the second or third day, rarely as late as the fourth day. Allowing a pint of warm water to flow into the rectum facilitates the passage of flatus and feces. He had a case four years ago in which very serious collapse occurred at the end of the second day. Stercoraceous vomiting set in and large quantities of flatus were

passed by the mouth, but none by the anus. These symptoms were thought to be due to obstruction, and reopening was considered, but not done. The patient recovered, although she did not pass flatus for five days. Should such a case occur again he would open the wound and would have the endorsement of most operators for so doing. Large doses of salines are advised in such cases, but he wondered if there was not some danger of rupture of the bowel in these cases of adhesion after serious operations, and he related a case. Dr. Price had referred to two cases where he reopened the abdomen for pain, and found the omentum adherent to the line of incision. He knew of no better way to prevent this accident than the early use of laxatives.

DR. WM. L. TAYLOR read a paper on

FIXED UTERI.

In looking over his case book he found the remark, "uterus fixed," so often noted, so often underscored, as much as to say "here again," that he fain would ask how many of these cases were, in their inception, recognized as cases of peritoneal inflammation? In a number the note is made, "patient had attack of inflammation of bladder." "Inflammation of bowels" has been of alarming frequency, whilst "congestion of the liver" makes him wonder at the special degree of sensibility of that organ in women. In a series of cases where the lymph deposit seemed to be the most diffused, a positive history of an active and acute inflammatory trouble could not be obtained. There was only the history of a continued abdominal pain and tenderness, dating from an abortion, from heavy lifting, seldom from normal labors, and presumably never from gonorrhœal infection; seldom—I might say never—have I had perfect success in my efforts to trace the cause to this infection. The history of the husbands, as to the existence of a gonorrhœa or gleet, at the time of commencement of pelvic trouble, is, in the vast majority of cases, worse than uncertain. In several of the subacute cases the only ascribable cause appeared to be indirectly, if not directly, the effort to prevent conception. Freedom from the possibility of, at least, paternal cares, leads to an amiable weakness, and coition follows coition in quicker succession than the law of conservatism would recognize, and, plus the menstrual congestions, which now even anticipate, without the restful periods of pregnancy and lactation, congestion and inflammation of the peri-uterine tissues follow. That this is as immediately the cause of the fixed uteri, the thickened and enlarged ligaments and tubes, and tender ovaries, as is gonorrhœal infection, even in prostitutes, I am inclined to believe. Where the deposits of lymph were more localized or larger in quantity, seeming as if it had been poured out quickly, and had by gravity centered

itself around the uterus, there were histories of acute, well-marked attacks of cellulitis or peritonitis. The causes were difficult labors with badly lacerated cervixes, these lacerations extending through into the cellular tissue; and also criminal abortions. In these cases, how often traumatism and how often septic poisoning was the exciting cause it is impossible to say. Catching cold while menstruating, falls, and various other accidental causes were among the number. The average physician, as soon as the patient is up out of bed, shakes himself by the hand and says, "I have cured my patient." But he hasn't! There is still the important sequel to deal with, the lymph deposits. In fully three-fourths of all the cases the body of the uterus has become fixed in retroflexion, even in multipara. Just as soon as the uterus feels the stimulus of congestion or inflammation of surrounding tissue, it becomes turgid and heavy, and sinks decidedly lower in the pelvis until the cervix is near the vulvar orifice, and following the curve of Carus, the fundus is retro-displaced. Here it is, as it were, frozen in, fixed immovably. All around it is a mass of inflammatory lymph, becoming more dense and resisting as organization advances. In the centre of this the sound probably indicates the uterine body with a measurement of $3\frac{1}{2}$ inches. The cavity is tender and the cervix softened, congested with venous blood. Now this deposit varies greatly in quantity as the inflammation has been, by judicious treatment or by nature alone, limited or allowed to involve a great extent of peritoneal surface. The possibility of determining the amount of lymph deposit and the degree of fixation by bi-manual examination seems to me to be one of the few certainties in gynecological practice. A uterus which is low in the pelvis and which cannot be raised to the normal line, and a fundus which is retroflexed and cannot be repositioned, with the other evidences, bi-manually, of thickening and deposit, cannot but point to the certainty of previous inflammation. A sterile uterus and a fixed uterus seem to be almost synonymous.

The need of shortening attacks of pelvic peritonitis, aborting them if possible, can only be appreciated by those called upon frequently to treat the sequelæ.

If these are thoroughly treated the amount of lymph thrown out is small and probably will be absorbed almost as rapidly as it was thrown out. But we meet a case which was treated by "the other doctor around the corner," and the uterus and its appendages are imbedded and immovable. Now what are we to do? The great object is to get rid of as much of this effused matter as we possibly can. The older and more thoroughly organized this becomes the less chance there is of rapid and complete absorption. So the moral is, commence early. It is going to do one of three

things: undergo absorption, break down and form pelvic abscess or become organized, acquiring an adventitious circulation. In a case of recent or comparatively recent deposit he commences treatment by correcting the digestive tract, getting the stomach, liver and bowels in better condition and surface circulation is stimulated by warm baths and frictions. He then gives mercuric chloride, with the iodide, commencing with small doses frequently repeated and gradually increasing the dose and lengthening the time. Locally he relies upon the abdomino-vaginal galvanic current and gentle or more decided uterine massage, as there is great or little tenderness. This uterine massage he prefers in cases of long standing, where the tenderness has disappeared, but still used carefully where there is tenderness, he finds it beneficial. Every other day, or twice a week, make steady pressure upon the fundus of the uterus with the index finger of the left hand in the rectum and upon the cervix and body of the uterus with the right index finger in the vagina. This pressure is kept up for two or three minutes, gradually trying to force the body upwards and forwards. Then efforts at lateral movement for the same length of time. This massage is followed with the continued galvanic current, using the abdomino-vaginal method. For the breaking down of pelvic lymph he has not used electro-puncture, preferring the slower and as certain absorption by the stimulation of pelvic circulation. Where there is tenderness he uses the positive pole in the vagina and the negative over the abdomen for the first three or four applications and it is marvelous how rapidly this tenderness disappears. He then reverses the poles, using the negative with a ball or small crescent-shaped electrode in the vagina. These *séances*, including the massage, last for about fifteen or twenty minutes. The strength of current averages about 25 to 30 milliampères. After this is over he frequently packs the fornix with wool, introducing a small ring pessary to keep the wool as much as possible in position. After he gains a certain amount of mobility he introduces a Smith-Hodge pessary, small at first, increasing to a more suitable size as the uterus rises to the normal line. Tincture of iodine to the fundus of the vagina.

DR. T. HEWSON BRADFORD read

NOTES OF GYNECOLOGICAL CASES TREATED BY ELECTRICITY.

DR. B. C. HIRST thought it was a gratifying fact that we were advancing in this branch of therapeutics. It seemed that for a time we did lag behind other gynecological centers. He tried electricity some time ago but with very little result, because he had, he thought, used too weak a current and because he did not thoroughly un-

derstand the application of electricity in gynecology. He thought that much of the criticism of this kind of treatment had been ill-considered.

(*To be continued.*)

Gynecological Society of Boston.

Regular Meeting, Sept. 13, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D., IN THE CHAIR.

A letter was presented by the President from Dr. Herbert J. Harriman resigning on account of ill health, his position as Secretary of the Society which he had held for nearly four years. The resignation was accepted and it was unanimously voted that "the thanks of the Society be extended to Dr. Harriman for the able manner in which he has acted as Secretary."

DR. F. L. BURT presented some curettings of the uterus with the following history: The woman, æt. 67 years, had suffered from uterine hemorrhage for five years, during which time she had obtained temporary relief three times, after as many operations by different doctors. Last November Dr. Burt operated, removing by the curette about one-fourth pint of material from the interior of the uterus. This was pronounced to be adenoma. This operation again gave temporary relief, and it was repeated last May, when about the same amount of material was removed; but this time it was found to have undergone carcinomatous degeneration. Total extirpation of the uterus was performed, after which the patient recovered. The uterus was exhibited.

A pus-sac was then shown which had been removed by laparotomy from another patient.

The paper as announced for the meeting,

ANTISEPTICS IN GYNECOLOGICAL AND OBSTETRIC OPERATIONS,

was read by Dr. F. L. Burt.

DR. A. P. CLARKE said that he had long ago given up the use of the sponge-tent, believing it to be unsafe. Iodine is a good antiseptic, but corrosive sublimate is the most powerful of all. Less of it is needed, however, if alcohol has been used to bathe the parts previously, *e.g.*, on the abdomen previous to a laparotomy. One of the objections to corrosive sublimate is its decomposition by albumen, with the formation of albuminate of mercury. The doctor thinks we should all have some ideas concerning the use of antiseptics and carefully apply them. Dr. C. has introduced the sound a great many times, and has taken pains to have it antiseptic, and he uses iodine afterwards to lessen the danger from introduction of germs. Intra-uterine injections

have proven unfavorable, as a rule, in his hands, and he believes that there is danger of forcing air into the Fallopian tubes.

DR. WM. G. WHEELER said that we are apt to overlook other things when considering antiseptics, *e.g.* drainage, which the reader had not mentioned at all. Drainage is important. We must be careful not to shut up the enemy in trying to bar out the germs.

DR. R. E. BROWN asked what precautions the reader recommended when examining a woman during labor? (Answer by Dr. Burt: Hot water and soap are often sufficient, but we may need corrosive sublimate besides.) Dr. Brown said that he always washes his hands thoroughly and then dips them into a solution of corrosive sublimate. He had lately delivered a woman of a child which had been dead some time, and there was no trouble afterwards.

DR. W. O. HUNT said that he wanted to emphasize *antiseptic midwifery*. Cleanliness is the most important thing. It is necessary to scrub, not simply dip, the hands in corrosive sublimate solution. For a lubricant he prefers a solution of corrosive sublimate 1 to 2000 in glycerine. He considers the pad a great comfort. These are made by the nurse, who folds up a considerable quantity of salicylic cotton in a square of cheese cloth, and then bastes it to keep it intact. Next the vulva he places a small piece of absorbent cotton, which has been dipped into corrosive sublimate solution. The nurse should never touch the patient without having first previously used the solution of corrosive sublimate. We should not then see the temperature rise. Dr. Hunt never uses the vaginal tampon.

DR. C. W. STEVENS said that he had solved for himself the question of carrying antiseptics safely and in a convenient form. Carbolic acid cannot be carried without the risk of injuring the bag, but he always has with him salicylic acid and corrosive sublimate. For the salicylic acid he carries a small box which contains just $7\frac{1}{2}$ grains, and this added to a pint of water makes a solution 1 to 1,000. This solution he uses for the instruments requisite for suturing and for the obstetric forceps. The corrosive sublimate he carries in the form of tablets, one of which, added to a quart of water, makes a solution 1 to 2,000. Into this, after diluting, he dips a clean napkin, which is then wrung out as dry as possible, and placed, while still moist, against the vulva. The patient finds this comfortable and likes it as well as the pad. He also carries corrosive sublimate soap which makes a good lather.

DR. ESTHER HAWKS remarked that many patients cannot supply themselves with the materials that have been advocated, and moreover, among the poor patients there is generally no nurse to carry out such instructions as have been given. Water and soap, however, can always be obtained,

and frequently it is necessary to get along with these alone.

DR. W. SYMINGTON BROWN said that he believes corrosive sublimate to be a highly dangerous compound. It coagulates albumen in strong solutions and hence weak solutions are more dangerous. Some cases of dysentery and even death are known to be due to its use. Iodine is an excellent antiseptic, and it is safe. It may be used dry by putting it into a bottle with wool, and the iodine will evaporate and be deposited in fine particles on the fibres of the wool. Cleanliness, however, is the thing that is needed.

DR. SAMUEL N. NELSON said that he had seen only good resulting from the use of the continuous suture of catgut, or better, of tendon, and particularly when it has been used as a bruited suture. This he has assisted Dr. Marcy in using for the past seven years, and it is especially adapted for coaptation after amputation of the breast, for repair of the perineum, for union of the abdominal walls after laparotomy, for radical cure of hernia, and in a great variety of other operations, not of a special gynæcic type. For its successful employment thorough antisepsis is needful. It is important that the suture should not be drawn too tightly, nor in fact is more than approximation and retention necessary as a rule; for plaster lymph glues the parts together in a remarkably short time.

Of the antiseptics corrosive sublimate is the most powerful, but the fact that it forms an insoluble compound with albumen is somewhat to its disadvantage. Similarly, soap renders a solution of corrosive sublimate somewhat inert. In midwifery Dr. Nelson has been accustomed for some years to use a solution of corrosive sublimate (1 to 1,000) for the hands and for the napkins in the manner just described by Dr. Stevens. This he thinks highly important and safe, although he always requires the solution to be marked POISON and to be kept on a high shelf away from access by children.

DR. HORACE C. WHITE said that we should make a distinction between natural labor and that which requires interference. He has no patience with obstetricians who interfere with the course of labor merely to save time. Unless there is some special reason the vulva should not be opened. If the case requires surgical interference, different rules should govern it. He thinks that heat is an excellent antiseptic, and he has been accustomed, after thoroughly washing his hands, to hold them in the blaze of an open fire if possible. Diluted alcohol is a good antiseptic.

THE meeting of the American Medical Association at Newport, R. I., promises to be the best in its results, and to have the largest attendance of any yet held.

Medical Society of the District of Columbia.

Regular Meeting October 10, 1888.

DR. SWAN M. BURNETT, VICE-PRESIDENT,
IN THE CHAIR.

DR. LAMB presented specimens illustrative of
TYPHOID FEVER, WITH NOTES OF CASES AND
AUTOPSIES.

A dark mulatto girl, æt. 15, died September 25, 1888, after being in hospital but four days, and as nearly as could be ascertained, at about the tenth day of typhoid fever. I made the post-mortem examination and found about twenty dark spots, most of them one-eighth inch in diameter, on the abdomen. The brain was normal, but the pia mater congested. The lungs were congested, the heart appeared normal. A lumbricoid worm in the œsophagus. Bloody mucus in larynx and trachea. The liver was removed; but the gall bladder contained forty-two gall stones, the specimens shown at our last meeting. The spleen was large, dark and soft. Pancreas and stomach appeared normal. The ileum showed characteristic enlargement of Peyer's patches, and solitary follicles. The colon was generally congested, and the solitary follicles somewhat prominent. The mesenteric glands large and hyperæmic. The kidneys pale. Bladder full of urine. The right ovary converted into a cyst the size of a small walnut. There was no evidence of the menses having occurred.

This, then, was quite a typical case of typhoid fever.

On the 7th inst. I made a post-mortem examination on the body of a negro, æt. 27, who died rather suddenly, and therefore came under the coroner's notice. The friends said he had been sick for several days, but was walking about the day before death. The head was not opened, but the fauces and pharynx showed congestion and glandular enlargement, the tonsils being especially prominent. The tongue tip was held firmly between the teeth, as if in a spasm.

Larynx, trachea and bronchi contained mucus and granular matter. There was a large mass of greenish mucus pus under the vocal cords. The lungs were much congested. The heart flabby and filled with dark blood and soft black clots; there were abundant ecchymoses under the pericardium. The liver and spleen were congested. The peritoneum hyperæmic. Peyer's patches and the solitary follicles of the ileum were slightly thickened, while the mucous membrane was markedly hyperæmic. The mesenteric glands were also enlarged and hyperæmic. The kidneys large and somewhat congested. Bladder full of urine.

This also was a case of typhoid fever, but at an earlier date, perhaps not more than three or

four days of the disease. The lesions quite typical. The two cases are put side by side for contrast.

A very interesting point in the second case was the cause of death. I have grouped together (1) the matter of the tongue having been held spasmodically between the teeth; (2) the mass of mucus adjoining the vocal cords; (3) the very marked congestion of the lungs; (4) the flabby heart, filled with dark blood and clots; (5) the dark condition of blood generally; and (6) the superficial ecchymoses; and have concluded that there is a strong suspicion that the woman may have been strangled by the mass of mucus, which afterward slipped backward in the relaxation of the spasm.

DR. LAMB said that he was aware that the cause of death, in the second case (asphyxia), might be assailed. But the ecchymoses of the pericardium, to which he had failed to allude in his notes, also pointed to death from suffocation.

DR. EDES asked whether the heart showed fatty degeneration?

DR. LAMB in reply stated, that there was no fatty degeneration, the heart was such as we found in typhoid fever. He asked whether typhoid fever was prevalent at this time in the city.

DR. C. W. RICHARDSON read a paper entitled:
PATHOLOGICAL CHANGES AT THE BASE OF THE
TONGUE, POSSIBLY EXPLAINING CERTAIN
SO-CALLED FUNCTIONAL DISEASES
OF THAT ORGAN.

(See page 119.)

DR. BERMAN said, the paper brought back a number of cases, in which pins had been swallowed and located by the patient in the pharynx or cesophagus. He must confess that he had never seen a case of hemorrhage such as described, and had ascribed the symptoms to hysteria. The first case given by Dr. Richardson vividly recalled a case of his own. A young married lady came to his office and stated that she had swallowed a pin in some apple sauce. She complained of pain at the back of her tongue, and declared that she felt the pin. He examined carefully the pharynx and posterior nasal cavities, but found no pin; but there was decided congestion of the larynx. After a good deal of trouble he finally convinced her of her mistake by letting her look for herself. As many throats as he had examined, he had never seen a hemorrhage of the kind described in the paper. It perhaps bore a relation to purpura hemorrhagica, which, as we know, presented itself in hemorrhagic spots of a painful character over different parts of the body, shifting their position quite frequently. The true explanation of their occurrence had not as yet been given. Dr. Richardson's cases were perhaps similar ones.

DR. RICHARDSON said the fact that the condi-

tion had never been seen before did not militate against his observations. He had never before seen it.

DR. TONER said he would like to speak of the tongue as an organ in the perpetration of fraud. In an institution for females of which he had the charge, a patient presented a black tongue, greatly exciting the sympathy of all around her. A careful examination revealed no other symptom except the abnormal color. Taking the handle of a spoon, he scraped the whole black mass off without difficulty. He then expressed his suspicion to the superiors that the patient was committing a fraud, and advised that precaution be taken to either verify or contradict his suspicion. It was then discovered that the girl took stove-blackening to produce the result. A physician of Frederick, now dead, thought years before his death that he had swallowed a fish-bone, which had remained in his throat for years. So convinced was he of this, that he had himself examined in Frederick, as well as in Baltimore, by the most eminent specialists. Dr. Toner had examined him here, and agreed with all the rest that there was no foreign body in his throat. In this case he thought there was an affection of the nerve centres, for the patient died suddenly of brain trouble.

DR. HOEHLING spoke of the case of a lady whom he saw five years ago, and who declared that she had inhaled a thread while biting it off in sewing. She could not be convinced to the contrary, though no thread could be found. She suffered from hysteria, for the cure of which she underwent the operation of trachelorrhaphy, but without beneficial result as to the hysteria.

Regular Meeting October 24, 1888.

DR. L. L. FRIEDRICH presented a patient with *Lupus Vulgaris of the Face and Leg*.

DR. D. S. LAMB presented

A DOUBLE MONSTER, WITH REMARKS ON THORACOPAGUS.

(See page 118).

DR. LAMB also presented a specimen showing
AN ANOMALY OF THE STERNUM AND RIBS.

DR. LAMB stated that an eighth sternal rib was exceedingly rare. The French did not report any; the Germans only two; one in England—that of Humphrey; and that of Allen, in America. Dr. Lamb explained the fact of its not being mentioned more frequently in literature upon the theory of race peculiarity. All the American specimens were from negroes, except one from an Indian. An eighth sternal rib must bear some relation to respiration. The anomaly occurred in both men and women. It would be interesting to inquire into such peculiarities.

DR. A. F. A. KING had given very little attention to monstrosities. He would exhibit a case of coalition of the faces of a monster, at the next meeting. He supposed the development had been in one of the ways mentioned by Dr. Lamb.

DR. SCHAEFFER said this subject could be studied by observations upon the vegetable world. It is more than probable that in such cases there is more than one spermatozoon. We cannot judge of the anomaly of development from the specimens in the Museum. Some time ago Dr. Bayne asked him to see an an-encephalous child. Its head receded above the brow and it had a hare-lip. It was alive and was very repulsive as it breathed. Its parents would not allow it to be exhibited and so buried it. Dr. Lamb had mentioned heredity as bearing an important relation to such monstrosities, but forgot to say anything about consanguinity of parents. In Bayne's case the parents were first cousins, but presented very few similar traits either of person or disposition. The mother had a forboding that something would be wrong. The second pregnancy was a miscarriage. He asked Dr. Lamb if consanguinity had ever been looked on as a cause of monstrosities.

DR. LAMB: Experience and observation have shown that consanguinity has less influence in the production of such interruption of development than was formerly supposed. All authors are now of the opinion that twin, triple and quadruple monsters are from one ovum.

DR. J. FORD THOMPSON reported two cases in which he had removed

SUPERNUMERARY FINGERS AND TOES.

Two years ago he operated on the first case and removed the supernumerary fingers. A short time ago he removed the supernumerary toes from the sister of the first patient. He obtained the history of this peculiarity in two other members of the same family; the members had been tied by physicians and fell off. He thought it quite remarkable that there should be four similar cases in the same family. He thought heredity had a great influence in such false developments. Eight years ago he had operated on a child for hare-lip with success. He had been recently called to a child of the sister of this patient who had a hare-lip worse than that of the first case. In the latter the vomer projects beyond the nose. There were two cases in this family, but he could not trace it any farther back. He did not think that maternal impressions had any influence on such deformities, as the development was too far advanced, especially in hare-lip and cleft palate, from the period when the impression is said to be received.

DR. KLEINSCHMIDT desired to make an addendum to Dr. Lamb's remarks, by stating that

twins coming from *one* ovum were always of the same sex; hence, joined monsters coming as they did from one ovum, were always of the *same* sex.

STATE MEDICINE.

Sanitary Convention at Hastings, Michigan.

REPORTED FOR THE JOURNAL.

A sanitary convention, under the auspices of the State Board of Health, was held in Hastings, Michigan, December 3d and 4th. The five sessions were well attended, and the interest seemed to increase to the close. On each subject there was a paper or address, followed by discussion. The subjects discussed were those which should and did interest the citizens, and included "The Water-supply of Hastings," "The Disposal of Excreta and Waste in Hastings," "Plats of Localities in Hastings"—showing exact relative positions and distances between wells, privies, etc., "The Prevention of Communicable Diseases," and the "Duties of the Local Health Officer." This last subject was treated by D. E. Fuller, M.D., himself the local health officer, and by Henry B. Baker, M.D., Secretary of the State Board of Health. Dr. Baker pointed out how lives and money can be saved in a locality by the appointment of a health officer, if the people and the health officer will co-operate for the restriction and prevention of scarlet fever, typhoid fever, diphtheria, etc. He showed how at least one physician in a village or small city can be employed to prevent instead of cure disease, with pecuniary profit to the people and at least a salary to the physician of not less than one thousand dollars a year. His paper was substantially as follows:

Inasmuch as our health officers exist for the purpose of protecting us from dangerous diseases, we may get an idea of what are their most important duties by finding out what are the most important dangers from which they should protect us.

In Michigan, the five diseases which cause the most deaths are: Consumption, diphtheria, typhoid fever and scarlet fever.

DIPHTHERIA.

Concerning diphtheria, which is next to the most fatal disease, health officers in Michigan now generally know how to restrict it, and thereby to save hundreds of lives. If you ask how do we know that they know how, I reply, some of the health officers in Michigan are doing this all the time, and we have the facts to prove it; and to prove how it is done. For instance, in 1886, 461 outbreaks of diphtheria were reported to the office of the State Board of Health, and the health

officers were requested to report just what was done to restrict the disease, and how many cases occurred in each outbreak. If under one method of work or neglect to work the disease spreads, and under some other method of work the disease does not spread from the first cases, we can find it out if we devote sufficient thought and work to the compilation of the reports which the health officers make, provided they report the exact facts. I am sorry to say that in about 240 of the outbreaks the health officers did *not* report with sufficient accuracy so that we could tell exactly what they did do; but in about 200 outbreaks they *did* report distinctly, and, of these about one-half had secured isolation of the first cases and the thorough disinfection of infected things, while the other half had not secured both isolation and disinfection, although some of them had secured one or the other of these important measures. Careful compilation of all of these reports showed that in those outbreaks in which either isolation of the sick, or disinfection of infected things had been neglected, the disease had spread so that there were five times as many cases, and five times as many deaths as there were in those outbreaks in which both isolation of the sick and infected, and the disinfection of all infected places and things has been accomplished. In the 116 outbreaks in which all this was done there was apparently a saving of about 300 lives and 1,500 cases of sickness from diphtheria. Of course it is easy to find fault, and to say: "What a pity these measures were not carried out in all of the 461 outbreaks instead of only in the 116," but we should not lose sight of the fact that there was a positive saving of several hundred lives in a single year, from one disease, and that the compilation of the reports proved how it was done, and how it might be done again, namely, by thorough and careful isolation and disinfection under the direction of a capable and efficient health officer. And now very much the same thing has been done again, as is shown by the compilation of the reports of the health officers in Michigan for the year 1887.

SCARLET FEVER.

What I have said relative to diphtheria is applicable, with slight variation, to scarlet fever. The compilation of the reports of the health officers in Michigan relative to scarlet fever during the year 1886, showed that in the fifty-eight outbreaks in which disinfection had been thorough, the disease had not spread much, while in those outbreaks in which isolation or disinfection had been neglected there were over five times as many cases and over five times as many deaths. The compilation of the reports relative to scarlet fever in the year 1887 has demonstrated that the year 1886 was not exceptional, the saving of life and health was again apparent.

TYPHOID FEVER.

The measures for the restriction of typhoid fever are not the same as for diphtheria and scarlet fever, and the evidences of success have not yet been so well elaborated, but I feel confident that a considerable proportion of the sickness and deaths from this disease may be prevented, by measures which are described in a pamphlet, copies of which are distributed in this audience. Some of the essential measures need the efforts of the health officer to make them more effective; but in all of these diseases the co-operation of the people with the health officer is important.

WILL IT PAY TO HAVE A HEALTH OFFICER?

It is plain, then, that some of the most fatal diseases that affect us may be in great part prevented, and that much depends upon the knowledge and efficiency of the local health officer.

It is plain, too, that the measures by which these diseases are prevented are *not* those which in old times we associated with the duties of the health officer. The abatement of ordinary nuisances should probably be attended to by the health officer; but the abatement of nuisances may have very little to do with the prevention of diphtheria or scarlet fever; while it is certain that *isolation and disinfection of infected persons and things, will save lives.*

But when the health officer comes into very close relations to cases of some of these dangerous diseases, he must himself refrain from going directly to some child to whom he may carry the disease; and so he must lose his practice. He will also lose much by the antagonism of those whose movements he will cause to be restrained. Consequently, whenever there is an outbreak of one of these diseases, if he attends to his business as health officer, it is probable that he must relinquish his other means of income. Is the public prepared to guarantee him, say, ten dollars a day during the outbreak? Is the public prepared to ensure him against loss by reason of his necessary action as an efficient health officer? If not, is the public willing to give him such a fixed salary as will induce the health officer to take his own chances of loss?

My belief is, that, except in Detroit and Grand Rapids, there are few, if any, cities or villages in the State, where these questions have been properly met in the interests of the people. Therefore, either the health service is not what it should be, as is the case in many places, or it *is* what it should be, simply through the public spirit or philanthropy of some physician, as I am glad to testify is the fact as regards many of the cities and villages in Michigan.

Perhaps you may think I am wandering from the subject of the duties of the health officer and am giving a rather broad hint as to the duties of the people or their representatives to properly

support the health officer; but it is necessary to examine into the question in some such manner, in order to see how it is possible to have a health officer who can afford to perform his duties faithfully. Taking into consideration the prospective losses in various ways, my own view is, that no physician can afford to file his oath of office in the city of Hastings, unless he is assured of a salary or compensation averaging a thousand dollars a year. Can the City afford to give that much? Let us examine into the facts.

MANY LIVES MAY BE SAVED AND MONEY TOO.

The population of Hastings is about three or four thousand. If its death rate is about the average, the annual deaths number about sixty. Then about seven or eight of these are from consumption, about five from diphtheria, about two from scarlet fever, and about two from typhoid fever. These numbers may not be exactly true for last year, but for a long series of years they are an approximately true average.

From the experience of the health officers in Michigan during the years 1886 and 1887, I have demonstrated that at least 80 per cent. of the cases of the sickness, and 78 per cent. of the deaths from diphtheria are prevented by those who secure, after the first case has occurred, complete and thorough isolation and disinfection, such as an efficient health officer can secure when his people co operate with him for that purpose. Therefore, the lives of at least four persons in Hastings can be saved each year, on the average, from that dreadful disease diphtheria. There may be single years when diphtheria may not come to Hastings and then some parsimonious grumbler might wish to cut down the salary of the health officer, perhaps after the same health officer had in some way prevented the first case being brought in, as, for instance, by preventing a public funeral over the body of one dead from diphtheria, and brought here for burial; but I think you can be assured that, in these days of rapid transit and constant movement among the people, Hastings is in *danger* of having diphtheria brought here every year, and you need a health officer constantly on guard and in close correspondence with the central office at Lansing, so that, at a moments notice, he may take action to prevent the introduction, or if that is impossible, then to prevent the spread of this, one of the most dangerous diseases to which our children can be exposed.

LIVES MAY BE SAVED FROM SCARLET FEVER.

Then, too, nearly the same remarks apply to scarlet fever as to diphtheria; although in recent years the deaths in Michigan are not so numerous. Yet, taking the average of years in Hastings, at least one death per year from scarlet fever should be saved by prompt and thorough action, even after the disease has been introduced,

and, of course, the most important service of a health officer is to prevent the introduction of such a dangerous disease.

CONSUMPTION SHOULD BE LESSENED.

Enough is now known of the causation and spread of consumption, so that this most important cause of death should be very greatly lessened; and it may be lessened by spreading among the people information concerning its causes and just *how* it may be in great part prevented. An intelligent and faithful health officer, whose time was not otherwise demanded for the practice of medicine to support his family, might do much to put before the people whom he was adequately paid for guarding, the facts collected by sanitarians and State Boards of Health, which would enable them to guard against this disease, which is so fatal to people at those ages at which they should be in the prime of life. At least one death per year in Hastings should be saved from consumption.

LIVES MAY BE SAVED FROM TYPHOID FEVER.

Some one, familiar with the ways in which typhoid fever is spread, has said that for every death from typhoid fever some person should be held criminally responsible. I should not agree with that, because I think that, among a large proportion of the people, the ignorance, which still permits the disease to spread, should be pleaded in extenuation. But intelligent health officers can inform the people under their care how to restrict the spread of typhoid fever, and how to do many things which tend to prevent the occurrence of the first case in a community. At least one death a year in Hastings from typhoid fever ought to be prevented; and the person saved would be most likely to be in the middle age when his work would be most productive.

Thus an efficient health service, having thorough co-operation of the people, should save in Hastings each average year seven lives, five of the persons being children and two grown persons. I do not say positively that exactly so many were saved during the past year, but I do claim, that on an average, this number can be, and should be, saved over and above what would occur without such efforts as those I have suggested. I claim that the health officer should earn and have a thousand dollars a year, to supervise the work, and that all of your people should aid him whenever it is necessary, and that expenses should be incurred by the city and by individuals which might aggregate another thousand dollars; and that your people would not only save those seven valuable lives of children and friends most dear to you, but that, by this outlay, money would actually be saved which otherwise is lost; that is, if the money were judiciously expended and you secured the efficient service which I have indi-

cated. Let me point out just how some of the saving would occur :

THE MONEY VALUE OF WAGE WORKERS.

Political economists sometimes estimate that an average man in the early part of the productive period of his life will afterwards earn, over and above what it will cost to support him, one thousand dollars. It is within the memory of some of us that a healthy negro slave could be sold at the south for eight hundred or a thousand dollars, and we will all admit that slaves were not the most industrious persons either. Now if we save from death, and in good health, two adult persons in Hastings in each year, we have saved in money value to the families to which those persons belong probably the full amount of the two thousand dollars a year, which I advise you to spend on your health service. Then there are the five children which are saved from diphtheria and scarlet fever. They have cost hundreds of dollars for their maintenance, and if they die all is lost, but if their lives are saved they will soon reach the productive age. They are worth to their families, for what they will cost and earn—say one-fifth of the value of an adult person; or another four thousand dollars which we may look upon as profits on our two thousand dollar investment. A 50 per cent. profit ought to satisfy any tax payer in the city. And if one of these children chanced to be your own, or the adult the bread-winner of your own family, the arguments should be convincing; but there is another alternative suggestion which is illustrated by a remark that I recently heard at the meeting of the American Public Health Association: Dr. Smart, of the U. S. Army, was deploring the slowness of the people in public-health work, and said there was little comfort to be had from the thought that years in the future when your name is mentioned, some one will say: "Yes, I knew him well; he died, prematurely, eight or ten years ago of typhoid fever." Well, precisely that may be said of any one of us, because the safety of each one is bound up with that of others; no man lives to himself alone; not only is he his brother's keeper, but his brother, his fellow citizen, and even a person in a foreign land may send him something, or do that which will endanger his life. In fact, I suppose that all of our dangerous communicable diseases are brought to us—we do not create them, and much can be done by ourselves, by our families, by the community, and by the health department of our local government (which exists for our common safety and welfare) to protect us from diphtheria, from typhoid fever, and from the other dangerous diseases which may be prevented or restricted.

Attend the next Annual Meeting.

DOMESTIC CORRESPONDENCE.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith.

Should Syphilitics Marry?

To the Editor:—Some questions that are not clear to my mind in the light of my present knowledge.

1. Is syphilis a curable disease? or is it possible to eradicate all the syphilitic germs from a syphilitic? 2. Is not a person once a syphilitic always a syphilitic? 3. Is the germ of tertiary syphilis the same as the germ of secondary syphilis, and also the same as that germ which causes chancre? or is their virulency modified by removal from the chancre? 4. Is it possible to inoculate a non-syphilitic by serum or secretions from a tertiary syphilitic and produce a syphilitic chancre? 5. Should syphilitics marry? and when?

In the light of my present knowledge I believe syphilis is not entirely a curable disease. Whilst it may be modified by specific and timely treatment, I believe it is impossible to eradicate completely all the germs in a syphilitic, so that I think that a person once a syphilitic is always a syphilitic. A syphilitic may seem to be to all intents and purposes cured of the malady, yet it is apt to make its imprint manifest on some of his or her children.

I believe the germ that produces chancre is the same, and has the same virulency, as that which circulates in the system during secondary and tertiary syphilis, and so long as there is a single syphilitic germ in the system such a person is a syphilitic and may convey the disease to others in various ways. For that reason I would say a syphilitic should never marry. It would be better for the State that he never married. It has been my experience that a syphilitic, no matter in what stage, or how completely cured he seems to be, is liable to inoculate his wife with the disease, or some of his children may inherit it.

From what I have said, I am induced to produce the following cases of the many that have come under my observation.

P. Q. contracted syphilis when he was 25 years old. Married at the age of 34 years a perfectly healthy blonde of 21 years of age. When he married he had not undergone any regular treatment, but was in every way, so far as appearances indicated, a perfectly healthy man, except a leaden appearance that he presented. His kidneys and liver often become torpid. He is strictly a temperate man and takes exceedingly good care of himself. The wife has one child by him, a boy nearly 5 years old. The child is apparently healthy and fat, and large of his age. Whilst carrying the child the mother presented the char-

acteristic symptoms of secondary syphilis, which was either conveyed to her from the father through the child or from the semen of the father. Mrs. P. Q. weighed 125 pounds when she was married, but was afterwards by the effects of the disease reduced in weight to 105 pounds. The child has not as yet presented any indication of having inherited the disease.

B. R., a young man of scrofulous diathesis, inherited from his father, who had had syphilis. B. R. contracted syphilis, after he had had a very bad ulcerated leg, when he was 20 years old. I treated him specifically for two years. He married a blonde 21 years of age when he was 25 years of age, and now has two children by her, who are apparently healthy. The wife so far has also escaped the disease.

A. B., a young woman æt. 21 years, contracted syphilis and underwent a mercurial form of treatment for one year, after which she was married and had two children, a boy and a girl, now respectively 16 and 18 years of age. They appear to be entirely healthy, although in childhood they presented the characteristic symptoms of inherited syphilis, and were so treated. The mother has since died with syphilitic disease of the liver.

A. R., a young man æt. 25 years, contracted syphilis and was treated with mercury for two years. He then married and the first child was a still-born, having died *in utero* and become macerated before birth. Whilst carrying a second child Mrs. A. R. was treated with mercury, and the second child was born alive and is still living. She has had several children born alive since that, all are now living and apparently well. The mother never contracted the disease from the husband.

J. P., a young man æt. 21 years, contracted syphilis. He was treated with mercury two years. He married at the age of 25 years. His wife bore him three children; one died soon after birth, of imperfect development of the heart, and the second died during the second summer of inherited syphilis, but the third is still living and apparently healthy. The mother does not show any symptoms of the disease.

A young man contracted syphilis when he was 18 years old and was treated with mercury for two years. He then married and had one child. The child has symptoms of having inherited the disease, although the father and mother are apparently healthy.

A man married a woman suffering with tertiary syphilis. The husband contracted the disease from the secretions of his wife in the form of a chancre in the urethra or that of a gonorrhœa. The husband never had any buboes, but had all the symptoms and evils of the dread disease.

I have said syphilitics ought not to marry: as far as the disease in my opinion is a curable one

I would adhere to my stated opinion. If it could be cured in such a way that there would be no possible chance of transmission I would say marry, but my experience and observation have taught me that syphilis is not a curable disease and is oftener than otherwise transmitted to posterity, even when it has received a scientific and prolonged treatment. If also with the view of final eradication of the effects of the disease from the posterity of a syphilitic by proper selection I would say marry, for I believe it is only through proper selection and for a long time that the effects of syphilis can be finally eradicated from the posterity of a syphilitic.

JOHN M. BATTEN, M.D.

Pittsburgh, Pa., Jan. 12, 1889.

Should Antipyrin be Used During Parturition or Gestation?

To the Editor:—During the last year or two I have quite frequently noticed in current medical literature references to the beneficent influence exerted by antipyrin in modifying the pain and suffering of labor. In one case in my own practice I administered it with decided advantage, the suffering being much mitigated, and were it not for one question that presented itself to me, would have used and continue to use it frequently. The question to which I refer is this: May not the influence of the drug in inhibiting or suppressing the secretion of the milk more than counterbalance all advantages derived from it as a pain obtunder?

How much influence it exerts over the lacteal secretion has not as yet been clearly determined, but I have recently seen in the medical journals a number of laudatory notices of its marked effect in suppressing milk secretion. In the *Medical News*, of Dec. 8, 1888, page 645, T. Haven Ross, M.D., reports a case in which it exerted a marked influence and gives reference to other journals corroborating his experience. These facts I deem of sufficient importance to put every physician on his guard against an indiscriminate use of the drug as a pain alleviator during parturition and lactation, at least until it has been definitely decided how much influence it does exert upon the lacteal flow. The percentage of American women who nurse their infants without any assistance from artificially prepared foods, is not so great as to justify physicians in administering a lactifuge for the many rheumatic, neuralgic and other pains for which this remedy is now so universally used.

Let those who have abundant clinical facilities elucidate this question so that all physicians may be able to use the remedy intelligently and subserve the best interests of their patients.

E. STUVER, M.S., M.D.

Rawlins, Wy. Terr.

The Choice of Five Journals.

To the Editor:—I have not received THE JOURNAL of the 12th inst. as yet. Is it the fault of the mailing clerk, or of the mails? I cannot afford to miss a single number of THE JOURNAL, as it is my choice out of the five weekly journals that come to my office. Please send me the one of that date, and oblige,

Yours truly,

T. C. KENNEDY, M.D.
Shelbyville, Ind.

The San Francisco Coroner.

To the Editor:—In connection with an item on p. 885, of the issue of Dec. 22, of your esteemed journal concerning the Coroner of this city, allow me to remark that the then incumbent is a medical man, and that the non-medical coroner is for once not at fault.

Yours truly,

OBSERVATORE.

San Francisco, Cal.

NECROLOGY.

Robert McLure Fairleigh, M.D.

DR. ROBERT M. FAIRLEIGH was born in Brandenburg, Meade Co., Ky., on January 17, 1840, and died at his residence in Hopkinsville, Ky., on October 19, 1888, being in the 49th year of his age. He studied medicine under Dr. H. K. Pusy, of Garnettsville, Ky., and graduated in the class of 1860 of Jefferson Medical College, Philadelphia, some months before he attained his majority. At the beginning of the Civil War, when under 22 years of age, he was appointed Assistant Surgeon of the Third Kentucky Regiment, U. S. Army. Though very young, and of course without experience, his natural talent for surgery as demonstrated by his skill when it was demanded, and his devotion to the sick under his charge, caused him to be promoted in June, 1862, to the rank of Surgeon of his regiment, which position he continued to fill with ability and satisfaction until the termination of the War, when he was appointed Medical Director of the Western Department of Kentucky, with headquarters at Bowling Green, where he married Miss Annie Slaughter, of Lane Co., Ky., on May 17, 1865. In July, 1865, he resigned his commission in the Army and moved to Hopkinsville, Ky., where he immediately engaged in general practice, and where he continued to live and labor in his profession up to a few weeks before his death. During the twenty-three years of his residence in Hopkinsville he found but little time for recreation; being devoted to his profession and the welfare of his patients, his services were in constant demand from a large clientèle. He was a member of the Kentucky State Medical Society, of the

McDowell Medical Society and of the Christian County Medical Society; was President of the latter and for several years its Secretary. He was eminently progressive and public-spirited, as a member of the Board of Councilmen of his adopted city. He inaugurated many measures for the public good.

As a general practitioner Dr. Fairleigh had few superiors. As an old patron said of him, he was prompt, skilful and safe. As a surgeon he was dexterous, but eminently conservative, ever striving to avoid mutilation and to save all that could prove useful to his patient. As a gynecologist he kept himself abreast with the progress of the day, and was very successful in the treatment of diseases of women. He was an accomplished obstetrician.

He was the embodiment of sound social and professional ethics, was a favorite with all his medical acquaintances and the most popular doctor I ever knew. He was an elder brother to the younger members of the profession. All who had the talismanic letters M.D. attached to their names, whether merited or not, received the same polite attention when calling on him in his office as did the most distinguished and veteran practitioner. He would extend to the merest tyro in medicine the same urbanity and patiently listen to what they had to say with the same attentive consideration that was extended to the most accomplished members of his profession. His professional modesty was proverbial with all who knew him. His only ambition consisted in being thoroughly prepared to meet any all demands of a local practice of medicine and surgery. If the unselfish love for the honor of the profession as invariably practiced by precept and example in the life of our departed friend could animate the entire guild there would be no necessity for the written code of medical ethics.

J. P. THOMAS, M.D.

BOOK NOTICES.

L'ENSEIGNEMENT ET L'ORGANIZATION DE L'ART DENTAIRE AUX ÉTATS UNIS. Par Le DR. KUHN. 8vo, paper. 1888.

Many of our readers who attended the Ninth International Congress, will remember with pleasure the rotund and happy Dr. Kuhn who attended the Dental Section and spoke English with fluency. He came to this country under orders from the Minister of Public Instruction of France, to investigate and report upon the existing State of the practice of dentistry in the United States. He faithfully executed the commission, and this elaborate book, well illustrated, is the result. In it he gives the history of each dental college in the United States, gives their

methods of instruction, describes their buildings, and finally gives the laws relating to the practice of dentistry in each State and Territory in the Union. Thus it will be seen that it constitutes a useful compendium for those interested in that branch of Medical Art. In a supplement he briefly describes the status of dental instruction and practice in England and Germany. He laments the fact, that in France the practitioners of dentistry are neither on the same plane with those of other countries, nor is the French system of instruction at all equal to that of the United States. He puts the question in this way: "Let us take two young men equally intelligent, leaving at the age of 18 to pursue the different systems. One studies medicine and works hard for 8 years; the last year he becomes an assistant at the office of a dentist, from which he shortly becomes doctor.

"The other enters as an apprentice and passes all the grades of a school; he commences as apprentice, then a mechanician, then an operator, and when he shall have passed two years or less in a working office he may then establish himself. Which is the better practitioner of the two? For an impartial man of affairs, no doubt is possible.

"The possession of a medical diploma, never constitutes a guarantee of professional superiority." Dr. Kuhn's work, as it deserves to be, has been well received in Paris, and as a book of reference on this subject it will always be of value.

MISCELLANY.

TRAINING OF SOLDIERS IN NURSING DUTIES IN THE EAST INDIAN ARMY.—The following rules proposed by the Surgeon-General, Her Majesty's Forces, for the training of soldiers in nursing duties, have been approved by His Excellency the Commander-in-Chief, and are published for guidance:

1. A certain number of men, who may voluntarily present themselves, and who as orderlies in attendance upon serious cases of illness, have shown an aptitude for this work, shall be trained in nursing duties, so that they may be available for assisting in the care of sick comrades when required, and for duty in time of war in hospitals in the field.

2. The course of study, which is entirely distinct from the training of stretcher bearers, to comprise the subjects contained in Part II of the Manual of the Medical Staff Corps.

3. Each course to consist of twelve lectures, and to extend over a period of three months; the theoretical portion being supplemented by practical instruction in the hospitals. Two courses of lectures to be given in the year, in such British Garrisons as the General Officers Commanding Districts, in consultation with Deputy Surgeons-General may decide, the number of men attending each class being limited to fifteen.

4. The instructor to be an officer of the Medical Staff, nominated by the Deputy Surgeon General of the Circle, and assisted in this duty by one of the medical subordinates attached to the Station Hospital, and a steady non-

commissioned officer to be detailed by the military authorities.

5. At the termination of the course an examination should be held, and certificates of proficiency given to those members of the class who have been regular in their attendance, and whose knowledge of the subject is satisfactory.

6. The appliances, instruments, etc., necessary for carrying out the instruction being available in every Station Hospital, the proposal need entail no expense to the State. It will, however, be necessary that two full sized diagrams, (1) the skeleton showing the ligaments, and (2) the heart, blood-vessels, and muscles, be provided.

Nursing Orderlies.—The Commander-in-Chief has had under consideration the question of providing a trained establishment of ward servants for employment as nursing orderlies in hospitals of native troops and followers.

2. Having in view the importance of raising the efficiency of the class of ward servants, and of providing a reserve for war purposes, the Government of India has sanctioned the enlistment of two ward servants per regiment of native cavalry, as dismounted sowars, and per battalion of native infantry, as sepoy, to be included in the present fixed establishment of corps.

These men are to be enlisted for "general service" in war time, though in peace they will not be liable to transfer. They will be granted all the privileges of the soldier as regards good-conduct pay, furlough and pension, but will never rise above the rank of "Sowar" or "Sepoy."

3. As regards the existing establishment of ward servants, such ward servants as are fully competent may be retained, and if they are willing to accept general service, they should be enlisted under the conditions specified in para. 2. If not enlisted, they will continue to serve on their present conditions, and in those regiments only one soldier ward servant will be entertained.—*Indian Medical Gazette*, November, 1888.

TO EXTERMINATE GROUND SQUIRRELS.—John S. Dillman and William B. Kyle, Moscow, Idaho Ter., have invented a fumigator which is a device for forcing poisonous fumes or gases into holes in the earth to destroy gophers, rabbits, or other burrowing animals, being an exterminator consisting of an air and smoke pump, and a fire box arranged for easy connection, so as to be readily operated with straw or wood and sulphur.—*Scientific American*.

THE YELLOW FEVER ON THE YANTIC.—The Surgeon-General of the Marine-Hospital Service has received the following letter from the Health Officer of the Port of New York:

HEALTH OFFICER'S DEPARTMENT, State of New York.
QUARANTINE, S. I., January 16, 1889.

The U. S. S. *Yantic* arrived at Quarantine at 10.30 P.M. of the 10th inst., from Port au Prince, Hayti.

According to the report of Surgeon McCarty, yellow fever developed on board the *Yantic* the 28th of December, while lying at Port au Prince. Lieut. Charles R. Miles was the first victim. The 29th the second case, in the person of H. L. Kellar, developed. The third case, Cadet M. L. Bristol, occurred on the 30th, and on the 31st ult. Corporal Chas. Wm. Rowe was taken sick, and died on the 7th inst.

January 1st the vessel left Port au Prince. On arrival at quarantine the first three cases that had developed were still sick. The second and third cases in the order of the date of development were doing well. The first case was critically ill and gradually sank until death ensued at 10 P.M. of the 14th inst. The two remaining cases are convalescent.

The *Yantic* has been undergoing a thorough system of disinfection in every part not occupied by the sick. The case of Lieut. Miles who died on the 14th was so serious

¹ One per regiment.

that I did not think it proper to expose him to the peril of removal to the yellow fever hospital. The course of disinfection will be continued until there is no danger of infection from anything on board of the vessel.

The case of Lieut. Miles was unusually protracted. There were complaints in his case that resisted all efforts of control—hemorrhage from the kidneys constituted the most serious of these.

A careful study of the history of the development of yellow fever on the Boston and Yantic leads to the conclusion that the source of the infection in each instance was in the boats of the natives, known as "bumboats," in which fruit was brought alongside the steamers. My reason for this conclusion will be fully given in my report soon to be made.

Very respectfully,
WM. M. SMITH, Health Officer.

THE DANGER IN MEDICAL ABBREVIATIONS.—We doubt whether many practitioners of medicine who are accustomed to write prescriptions daily, realize the danger their patients run through abbreviated formulas. Some physicians affect an extreme brevity, as if it intimated their superior familiarity with the *materia medica*. One of the best we ever knew always wrote out fully the names of the drugs in a clear hand and took time to do it. How many sick persons have been poisoned by excusable mistakes on the part of druggists in deciphering prescriptions it would be difficult to say, and the many jokes said to have been practiced on drug clerks whereby a meaningless scrawl was translated into a bottle of some compound, have a basis in fact.

From an exchange the following list is taken, which shows how some common modes of abbreviating may be interpreted to mean severally from two to five different things, some poisonous:

Acid. Hydroc.	{ May mean Acidum Hydrochloricum, or Acidum Hydrocyanicum.
Aconit.	{ Aconitine. Aconiti Radix. Aconiti Folia.
Ammon.	{ Ammonia [alkali]. Ammoniac [gum-resin].
Aq. Chlor.	{ Aqua Chlori. Aqua Chloroformi.
Aq. Fontis.	{ May often be read Aqua Fortis. Chloride of Calcium.
Calc. Chlor.	{ Chlorinated Lime. Chlorine.
Chlor.	{ Chloroform. Chloral.
Emp. Lyt.	{ Emp. Lytharg. [lead plaster, old name]. Emp. Lyttæ [blistering plaster].
Ext. Col.	{ Extractum Colchici. Extractum Colicynthidis.
Hyd. Chlor.	{ Calomel. Corrosive Sublimate. Chloral Hydrate. Hydrargyrum [mercury]. Hydras [hydrate].
Hydr.	{ Hydrochloras [hydrochlorate]. Hydrocyanas [hydrocyanate]. Hydriodas [hydriodate].
Mist. Ammon.	{ Ammonia Mixture. Mixture of Ammoniac [gum-resin].
Potass. Hyd.	{ Hydrate of Potash [caustic potassa]. Hydriodate of Potash [iodide of potas- sium].

—*Phrenological Journal*.

THE MARINE HOSPITAL SERVICE.—The bill reorganizing the Marine Hospital Service has become a law. The essential feature of this new law is that appointments to the service are made by the President and confirmed by the Senate. The service is now, therefore, upon the same

non-political footing as that of the Army and Navy. Changes in politics can no longer endanger the position or prospects of advancement of its members. In accordance with the law, the President has sent to the Senate a list of names of all the present members of the service for appointment as Surgeons, Assistant Surgeons, and Passed Assistant Surgeons, respectively. Dr. Hamilton has crowned his labors for the promotion of the service in a way which must be most gratifying as it is creditable to him.—*Medical Record*.

SOME ADVANTAGES OF MEMBERSHIP IN MEDICAL SOCIETIES.—There is, perhaps, no other one thing that conduces so much to the advancement of medical science as does the active, working medical society. Now and then we hear it said, "The profession is going wild over medical societies; they are getting to be entirely too numerous." Those who hold this view lose sight of the fact that compulsory attendance upon society meetings is a thing unknown. Every one will admit that it is possible for a physician to devote so much time and attention to society work as to seriously affect his private practice, but a smaller number of patients are lost in this way than by the stay-at-home plan.

The *Maryland Medical Journal* says: "By the thoughtful, live physician, the question, 'does it pay to belong to a medical society?' will always be answered in the affirmative." This, however, is not apparent to many, as the remuneration, in dollars and cents, comes in an indirect way. The *Journal* continues thus:

"The amount of practical information which a physician may gain from the discussions of an active society is beyond all calculation."

Nor does the medical society teach him less about himself. It gives him opportunity to compare himself with his fellows, to silently note the points in which he is deficient. It trains him to greater accuracy in the study of his cases, and greater care in their treatment, especially if, from time to time, he brings the more interesting ones among them to the notice of the society.

Here and there may be found an active, pushing city practitioner who is a member of no society, but this is a rare exception. Our best workers are society men.—*Weekly Medical Review*.

DISAPPEARANCE OF YELLOW FEVER FROM TAMPA.—The Board of Health issued in December last the following proclamation declaring the county free from yellow fever:

TAMPA, FLA., DECEMBER 20, 1888.

At the meeting of the Hillsborough County Board of Health held in this city yesterday the following resolutions were adopted:

WHEREAS, There have been no new cases of yellow fever in Tampa since the 3d instant, and the county and city being entirely free from yellow fever

Resolved, 1. That the Board of Health hereby officially declares the city of Tampa, and the county of Hillsborough, free from the presence of any and all infectious and contagious diseases; and that in our opinion no risk from yellow fever would be incurred by unacclimated persons visiting and residing in Tampa, or any place in the county.

Resolved, 2. That as there have only been ten deaths from yellow fever in the city of Tampa, during the summer and fall of 1888, it is very evident that Tampa has not suffered from any very extensive epidemic. Furthermore, in all houses where the disease has prevailed, so far as known to the Board of Health, all necessary measures to eradicate the poison have been taken; so that the Board of Health feels justified in declaring that no apprehension need be entertained on that account by people wishing to come to Tampa, and Hillsborough County.

JOHN P. WALL, M.D., President.

Attest:—D. POST, Secretary.

—*Weekly Abstract of Sanitary Reports*, Jan. 4, 1889.

A CHRISTIAN SCIENCE FAD.—

"Think health and health will find you
As certain as the day,
And pain will lag behind you
And lose you on the way."

Why not pursue this same line of reasoning to the bitter end, something after this fashion:

Think wealth and you will get it—
A million, more or less;
Think silk and in the closet
You'll find a gros grain dress.

Think land when you are drowning,
Beyond all human reach,
And by this happy theory
You'll be washed up on the beach.

Think bread when you are hungry
And a feast will there be spread;
Think sleep when you are weary
And you'll find yourself in bed.

—*Harper's Magazine.*

PAMPHLETS RECEIVED.

Tilley, R., M.D., Chicago, Ill. *A Case of Atrophy of the Supercilia and Cilia, Associated with Atrophy of All the Finger-nails, of Congenital Origin.* Reprint from THE JOURNAL, January 12, 1889.

Knapp, Philip Coombs, A.M., M.D., Boston, Mass. *Some Post-Hemiplegic Disturbances of Motion in Children.* Reprint from the Boston Medical and Surgical Journal, November 22, 1888.

Knapp, Philip Coombs, M.D. *Nervous Affections following Injury.* Reprint from Boston Med. and Surg. Journal, 1888.

Clevenger, S. V., M.D. *Spinal Concussion.* Reprint from THE JOURNAL, 1889.

Sternberg, Geo. M., M.D., U. S. Army. *Recent Researches Relating to the Etiology of Yellow Fever.* Reprint from Trans. Assoc. Amer. Physicians, 1888.

Eastman, Joseph, M.D. *Intraligamentous Tubal Pregnancy.* Reprint from Am. Jour. of Obstet. and Dis. of Women and Children, 1888.

Mateer, Horace N., M.D., Ph.D. *Science in Medicine.* Graduating Thesis. Reprint from the Post-Graduate and Wooster Quarterly, Wooster, O. 1888.

Middlekamp, H. H., M.D. *Are Immediate Amputations Justifiable?* Reprint from Progress.

Stewart, Hon. W. H., U. S. Senator from Nevada. *Money Answereth All Things.* Reprint from Congressional Record, 1889.

Cutler, Ephraim, M.D., LL.D. *The Contras and Pros of the Culler Stem Pessary.* Reprint from Albany Medical Annals, 1888.

Chicago College of Pharmacy, Twenty-seventh Announcement, 1889.

Jacobson, Nathan, M.D. *A Contribution to the Study of Tumors.* Reprint from THE JOURNAL, 1889.

LETTERS RECEIVED.

John A. Larrabee, M.D., Louisville, Ky.; Electron Mfg. Co., New York; S. S. White Dental Mfg. Co., Philadelphia; Codman & Shurtleff, Boston, Mass.; J. H. Bates, New York; W. M. Barritt, M.D., Onarga, Ill.; Henry O. Marey, M.D., Boston, Mass.; F. E. Yoakum, Greenville, Tex.; A. B. Younkman, Bremen, Ind.; A. G. Myers, New York; L. Duncan Bulkley, M.D., New York; Herbert E. Smith, M.D., New Haven, Conn.; C. W. Richardson, M.D., Washington, D. C.; Alex. Boggs, M.D., Paris; Owen Mead, M.D., Newmarket, England; H. Judd, M.D., Galesburg, Ill.; S. P. Deahofe, Potsdam, O.; Mary Hayden, Freeport, Ill.; M. Paul Gibier, N. Y. City; P. O.

Hooper, M.D., Little Rock, Ark.; S. C. McCormick, M.D., Duluth, Minn.; J. O. Stanton, M.D., Washington, D. C.; Ephraim Cutter, M.D., N. Y. City; H. A. Kimball, M.D., Chicago; B. Chapman, M.D., Copley, Ohio; Ira B. Read, M.D., New York City; Samuel L. Nelson, M.D., Boston, Mass.; John S. Coleman, M.D., Augusta, Ga.; Mr. G. E. Law, Brooklyn, N. Y.; Robert G. Ellegood, M.D., Concord, Del.; John Wilkinson, M.D., Oshawa, Ont.; O. J. Vincent, M.D., Allegheny City, Pa.; W. C. Brinkerhoff, M.D., Chicago, Ill.; Lloyd Brothers, Cincinnati, O.; A. G. Case, M.D., Denver, Col.; Mr. W. W. Brinton, Sharpsburg, Pa.; P. Blakistoun, Son & Co., Philadelphia, Pa.; J. P. Fouch, M.D., Osage Mission, Kan.; C. L. Kinnaman, M.D., Cleveland, Ohio; Cranston & Co., Norwich, Conn.; H. Salzer, M.D., Baltimore, Md.; Chas. D. Pearson, M.D., Indianapolis, Ind.; Wm. B. DeWees, M.D., Salina, Kan.; G. D. Parker, M.D., McKinney, Texas; A. S. von Mansfelde, M.D., Ashland, Neb.; *The Cleveland Medical Gazette*, Cleveland, Ohio; A. J. Scott, A.M., M.D., Londonville, Ohio; Miss C. B. Leonard, New York, N. Y.; D. R. Armitage, M.D., Muncie, Ind.; W. W. Potter, M.D., Buffalo, N. Y.; Wm. Forster, M.D., South Oil City, Pa.; Frank Kenyon, M.D., Scipio, N. Y.; J. C. Hearne, M.D., Hannibal, Mo.; F. R. Reynolds, M.D., Menominee, Wis.; Ward Brothers, Jacksonville, Ill.; Fred Humbert, M.D., Alton, Ill.; H. R. Middelkamp, Warrenton, Mo.; J. M. Toner, M.D., Washington, D. C.; R. C. M. Page, M.D., N. Y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 12, 1889, to January 18, 1889.

By direction of the President, and in accordance with Section 1216, Revised Statutes, an Army Retiring Board is appointed to meet in this city, at 11 o'clock A.M., Thursday, the 17th day of January, 1889, for the examination of such officers as may be ordered before it. Detail for the Board: Col. Jedediah H. Baxter, Chief Medical Purveyor, and Major Charles R. Greenleaf, Surgeon U. S. Army. Par. 2, S. O. 12, A. G. O., Washington, January 15, 1889.

Lieut.-Col. Charles H. Alden, Surgeon, and Capt. Edgar A. Mearns, Asst. Surgeon U. S. Army, detailed for duty on Army Retiring Board to meet at St. Paul, Minn., at the call of the President thereof. Par. 7, S. O. 10, A. G. O., Washington, January 12, 1889.

Capt. Richard W. Johnson, Asst. Surgeon U. S. Army, is granted leave of absence for fourteen days. Par. 1, S. O. 8, A. G. O., Washington, January 10, 1889.

By direction of the Secretary of War, Capt. James E. Pilcher, Asst. Surgeon, will repair from Ft. Wood, New York Harbor, to Philadelphia, Pa., at such time as his services can be spared, for the purpose of giving instruction to the Hospital Corps of the First Brigade National Guard of Pennsylvania. Par. 6, S. O. 8, A. G. O., Washington, January 10, 1889.

By direction of the Secretary of War, Capt. Benjamin Munday, Asst. Surgeon, is relieved from duty at Ft. Sisseton, Dak., and will report in person to the commanding officer, Ft. Sully, Dak., for duty at that post. Par. 2, S. O. 11, A. G. O., Washington, January 14, 1889.

First Lieut. Henry S. T. Harris, Asst. Surgeon U. S. Army, will, upon the arrival of Acting Asst. Surgeon Boyer, proceed from Camp Pena, Colorado, to the post of San Antonio, Texas, and report to the commanding officer for temporary duty. Par. 4, S. O. 1, Hdqrs. Dept. of Texas, San Antonio, Tex., January 2, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending January 19, 1889.

P. A. Surgeon A. H. Dickson, detached from the "Pensacola" and to the "Atlanta."
Asst. Surgeon F. W. Olcott, detached from the "Atlanta" and to the "Vermont."

THE Journal of the American Medical Association.

EDITED FOR THE ASSOCIATION BY JOHN B. HAMILTON.

PUBLISHED WEEKLY.

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CHICAGO, FEBRUARY 2, 1889.

No. 5.

ORIGINAL ARTICLES.

MALARIA, AND THE CAUSATION OF FEVER IN THE STATE OF NEW YORK.

Read in the Session on State Medicine at the Thirty-ninth Annual Meeting of the American Medical Association, Cincinnati, May, 1888.

BY A. N. BELL, A.M., M.D.,
OF BROOKLYN, N. Y.

It may be premised at the outset that, in this State, as throughout the United States, the most numerous of all diseases, after the communicable diseases common to childhood, are those attributable to malaria, but owing to the relatively low rate of mortality in this class of diseases, as a whole, in this latitude, and to the almost total neglect of morbidity statistics, it is impracticable to give even an approximate estimate of the number of cases. Moreover, as the cause of fever, though secondary in its etiological relations but primary in its importance, no conditions which give rise to disease of any kind have been so long recognized and continuously urged by the physicians of the State as preventable, as those which give rise to malaria and, consecutively, to malarial fevers. Notwithstanding, the same relative prevalence, and well-nigh the same generally recognized conditions which give rise to malaria continue to obtain now as they did at the beginning of scientific inquiry into the causes of disease in this State fully three-quarters of a century ago.

It would be a comparatively easy matter to make a volume of no mean dimensions out of the reports of committees and other contributions to the Transactions of the Medical Society of the State of New York from 1807 to the present time, containing material which would compare favorably with the best literature of the subject anywhere to be found. For example:

John R. B. Rodgers, M.D., President of Society in 1814 in his annual address of that year remarks, that intermittent and remittent fevers "arise from a change made in the qualities of the air, or the production of new materials in the atmosphere, arising from the application of long-continued heat on animal and vegetable matter in a state of decomposition." The "new materials" of Dr.

Rodgers are now called germs. And, as a description of the conditions which give rise to malaria, we know of nothing more perspicuous, more in accord with the present state of knowledge on the same subject, or more worthy of being proclaimed from the housetops than the following extract from the annual address of Alexander Coventry, M.D., President of the Society in 1824. He remarks:

"On my arrival in New York, in 1785, I found the whole space between the east side of Broadway and the river was vacant; it was a sandy soil with a gradual descent to the west, at whose foot the tide washed a sand and gravel beach; this shore, when fanned with the exhilarating westerly breeze which had swept the surface of the noble Hudson, might have been selected by Hygiea as her chosen abode. The citizens of New York at that time bore in their faces the bloom of health, and no signs of endemic disease were discernible in their looks.

"Ten years afterwards my business called me to the Capital, but the change I found in the looks of the citizens astonished me. Those living near the docks and wharves, indeed along most of the streets along the East River, had the pale, sallow look, the yellow skin and muddy eyes with which I had become familiar in the lake country during the preceding four years. The inhabitants bore the marks of endemic disease, and on inquiry I found that the disorder that raged in the city had been accompanied with the same symptoms as that which prevailed in the country. A most intimate friend then resided in the lower part of Pearl Street; he had lost a son and daughter and barely survived himself, while his eldest daughter who had nursed her relations had escaped the fever.

"Although there was neither swamp nor marsh, yet sources of disease were not wanting where vessels formerly lay. I found spacious streets and elegant houses, slips and basins filled up, and many acres gained from the sea and converted, as I was informed, not into dry land, but a mass of putrefiable stuff with which the most noxious swamp in Genesee could not compare. The North River side, where encroachment had not commenced still remained healthy and proved a safe retreat for the afflicted citizens.

¹ Transactions of the Medical Society of the State of New York, 1807-1831, p. 61.

"In the Spring of 1820 I was again in the city, and witnessed the improvements going on on the West side, the consequences of which became visible in 1822. Had the bank of the North River been left as it was originally the tide would have removed all the filth brought down the cross streets and all the sugar boxes ever brought from Havana would never have infected a spot large enough for a mosquito to alight on.

"In the country it often requires years, sometimes ages to conquer the source of disease, for vegetation annually supplies the pabulum. In cities, provided their location be favorable, it is man who works his own destruction, first by his improvidence, next by his negligence.

"The records of medicine abound with the most indubitable facts of the dreadful effects arising from the decomposition of animal substance. The wise Romans preserved the ashes of their ancestors in beautiful urns, and perhaps this was a mode preferable to resigning their remains as a prey to the worm and a poison to the living. The delicate Hindoo ascends the funeral pyre of her husband. Custom is everything. The Chinese find the most valuable manure in what with us is a great nuisance. The formation of poudrette, as practiced in France, would fertilize our fields and be a valuable relief to the inhabitants of cities. Pure and good water from a distance would be a grand desideratum. The filterings used in the city are extremely offensive, especially to the stomach of a stranger. One ounce of prevention is better than a pound of cure. Probably before the commencement of another century the Island of Manhattan will be thickly covered with human inhabitants. He whose patriotic endeavors would ensure health to such a number of fellow creatures would be more worthy of a monument than the proudest hero of the age, aye, if we may believe the Roman orator, he would approach nearer the divine nature. *Homines enim ad Deos, nulla re, proprius accedunt, quam Salutem hominibus dando.*"

Such observations have not been improved upon during the sixty-four years that have intervened, but all along during the period the medical topography of the State and the conditions of endemic fevers have been among the most constant subjects of investigation and report by the members of the State Medical Society, yet never more completely than twenty-eight years ago, by the late Joseph M. Smith, M.D., in his "Report on the Medical Topography and Epidemics of the State of New York," to the American Medical Association. (Vol. 13, pp. 83-269.)

On the organization of the State Board of Health, in 1880, "Malaria and Preventive Measures against it," was one of the first subjects to engage the attention of the then Secretary, the late Elisha Harris, M.D., who remarks in his first report:

(Opus Cit. pp. 270-271.)

"The reports and various complaints concerning malaria and the local sources of miasmatic diseases outnumber all others received at the office of this Board. The local conditions which are accused as the immediate causes of the evils thus complained of may be summed up as consisting of undrained wet grounds, stagnant pools and partially dried swamps and ponds and unsewered or badly sewerred premises. The most obvious fact is that drainage and sewerage for health do not yet appear to be the first object which local authorities have in view in this class of public works, and the rules and regulations they enforce concerning them. This is true alike in cities, villages and the rural districts." (P. 20). In his third annual report, (1883, p. 40) he remarks:

"The localities of paludal malaria, and the extent to which miasmatic diseases prevail cannot be ascertained from the records of death, but from reports of sickness; yet the total mortality from the miasmatic fevers and other kinds of disease from the same class of causes is considerable. The special sources of these diseases abound in the large cities as well as in the regions of drying swamps and stagnant ponds, or undrained basins and water-soaked grounds. The local suffering from malaria is often found to exceed even that which, from other causes, is attended by great mortality. In some instances the increase and persistence of malaria breaks down the health of many families, discourages enterprise, and drives the thrifty classes and their business to more healthful localities."

The foregoing quotations are made, not because they contain anything new, but because the truths which they express continue to be the most important subjects which sanitarians and health authorities can urge upon the civic authorities for the prevention of disease. During the last four or five years considerable headway has been made in the State, under the auspices of the State Board of Health, in arousing the attention of local authorities to the importance of sanitary economy, and there is reasonable ground for hope for continued and increasing progress in this direction.

"Just what groups of signs and symptoms are accepted as evidence of the influence of malaria," it is somewhat difficult to define, but, in general terms: most fevers caused by malaria are in their types intermitting, or paroxysmal, and remitting or exacerbating, and hence are properly designated *periodical*. But the exceptions to this definition are by no means rare.

From somewhat extensive observation in regions exceptionally prolific in periodical fevers, I have sufficiently often witnessed the prevalence of *endemic pneumonia* of a peculiarly acute and fatal type to satisfy me of its malarial dependence. Such cases are usually ushered in with a severe chill, intense headache, delirium, rapid pulse, high

temperature, overwhelming pulmonary engorgement and fatal termination within four days—and sometimes within forty-eight hours—without any remission. Moreover, I have observed cases of approximately similar character in relation with domiciliary conditions and localities, especially foul cellars and cellars exposed to gaseous emanations from foul soil surroundings, inasmuch as to be fully satisfied in my own mind that a very large percentage of the numerous deaths from pneumonia in the winter time, among children and other persons mostly confined to indoors, in the colder regions of the United States—in the country as well as in cities—is due to malaria and preventable by sanitary measures.

Other exceptions are found in persistent chronic congestions of the liver and spleen, resulting in dropsies, and congestion of the spinal meninges, giving rise to the persistent pains, aches and neuralgias common to the inhabitants of most malarial regions and domiciliary abodes, such as those indicated, and more or less proportional with the extent of the conditions.

Dengue, too, may be mentioned as a generally recognized distinct type of malarial fever, with exceptional symptoms, mostly limited to regions where the conditions which give rise to malaria exist in greatest intensity.

With regard to your final propositions—"What *is* malaria" and "what evidence is there for or against a malarial germ?" The correct reply is yet to be discovered.

The practical conclusions deducible from the foregoing summary are:

1. Malaria is coincident with accumulations of organic matter in process of putrefaction in alluvial bottoms, on the margins of sluggish streams, low humid borders of stagnant ponds and lakes, the marshy borders of the sea-shore, and *circumscribed local conditions*, chiefly artificial, comprehending more or less the same relations to vegetable debris and other organic matter in process of decay as the outlying conditions mentioned in this connection.

2. While it is not possible in the present state of our knowledge to determine the special relations existing between malarial diseases and the geological, thermal, hygrometrical and barometrical conditions under which they occur, those thermal and hygrometrical conditions most promotive of putrefaction coincident with the absence of sunlight are in the highest degree promotive of malarial poison.

MEDICAL gentlemen desiring to become members of the Association, can do so by securing the endorsement of the President and Secretary of the local society to which they belong, and enclosing the application with the membership fee (\$5), to the Treasurer, Dr. Dunglison, lock box 1274, Philadelphia, Pa.

SOME RESULTS OF EXCESSIVE CONSERVATISM IN THE TREATMENT OF DISEASE IN LARGE JOINTS.

Read before the Philadelphia County Medical Society, Oct. 24, 1888.

BY ADDINELL HEWSON, A.M., M.D.,

OF PHILADELPHIA.

The very admirable "Contribution to the Study of Excisions of the Large Joints" read by Dr. John Ashhurst, Jr., on the first day of the recent meeting of the American Surgical Association in Washington, D. C., and the interesting discussion of its various points, participated in by the many distinguished members of the profession, including the great men who were present from abroad, have given fresh zest and interest to the whole subject. In his paper Dr. Ashhurst confined himself, "particularly to the operative method, the after-treatment, and the functional value and limitation of applicability of excision in the case of each articulation." Drs. Lewis A. Sayre, of New York, R. A. Kinlock, of Charleston, S. C., T. F. Prewitt, of St. Louis, Mo., F. S. Dennis, of New York, Frederick Lange, of New York, John E. Owens, of Chicago, and Sir William MacCormac, of London, are mentioned as taking an active part in its discussion.

Neither the author nor any of these gentlemen referred to the proper times or indications for resorting to such operative procedures. It is true, Dr. Ashhurst did say that in "his excisions of hip-joints at the Children's Hospital, Phila., the rule is not to operate except in otherwise hopeless cases," and Sir Wm. MacCormac said he had heard with some surprise that "the tendency here seemed to be to postpone excision of hip-joints until all other measures had failed," and that, "in England the disposition is to perform the operation at an earlier period." So, also, Dr. Lange, of New York, referred to a class of cases in which the disease began in the tissue outside of the joint, the articulation becoming involved at a later stage of the affection. In these cases he recommended "early operation with the hope that in this way necessity for opening the joint would be avoided." But it is much to be regretted that we did not get more definite information all around on the point.

The most recent surgical writers on the subject to whom we can refer as well posted authorities at the present time, would all seem to agree that operative procedures of the character of excisions are not to be resorted to until there are evidences of absolutely destructive disease, going on in the joint properly speaking, such as of the synovial membrane indicated by roughness and impaired motion associated with severe pain there, aggravated by efforts to produce such, or by succussion

¹ These quotations are all from the proceedings at Washington, D. C., published in "The Journal of the American Medical Association" for Sept. 29, 1888, Chicago.

in the joint by jarring on the remote extremity of the limb, and, where there are much distension and signs more or less positive of suppuration in the cavity: also, where there are fistulæ in communication with that cavity associated with exhausting discharges of offensive fluids and particles of dead bone, and the detection, by probe, of bare bony surfaces belonging to the joint proper and so shown to be more or less definite and extensive in their nature. These are, however, no more positive or distinct in their limit, than what have been implied by the author and those who discussed his essay. We may, indeed, fairly inquire whether further conservatism as to this subject is not what is going to prove by its results the greatest skill and science in our noble calling.

A vast majority of the successful excisions of the large joints, require considerable time for the completion or perfection of their cures, and some cases have to go, as Dr. Ashhurst states, through a repetition of the operation, and, then with greater danger to life, before the desired end is attained. Even with the best results from excisions of joints, the limb as left, is not what could be wished for, and is certainly a constant source of lamentation to a laborer, whether a man, a woman, or a child; either in high, or, in low life, who carries it.

With these thoughts in my mind, I am tempted to show here this evening some of my efforts at greater conservatism than is encouraged by any authority, feeling assured that the thorough exhibition of them will do more than words to prove their advantages. To make this exhibition as thorough as possible, I shall, for the want of time, limit it to that of only three cases—one of the hip, one of the elbow, and one of the wrist. They are all at present within my reach to show you, and are to be taken as representative cases of the results I have been having in my treatment—now for nearly twenty years—and which has been with earth dressings as the essential part.

In all my cases I have never refrained from employing anything that would seem to meet any indication in each instance as that of a sedative, tonic, stimulant or entropic. Thus these three cases belong to a group in which I have made other topical applications as direct as possible to the seat of the disease at the times when I was about to renew the earth dressings, and which applications I expected would be of service in aiding the dissipation or action to be caused by the earth. In them I made application of the gases generated by "Bergeon's apparatus for treatment of Phthisis," directly to the parts, however, by means of inverted funnels or rubber bags which could be made to hold the gases on the localities desired. The funnels being used only at the shoulders and hips, and the bags with two large orifices like elastic knee-caps, for the elbows

and knees, and those with one opening, ordinarily to be found in the rubber stores, large enough to be drawn up over the extremity and some distance above the diseased part, for the wrist and the ankle. These rubber bags are all quickly filled by the distributing tube of Bergeon's apparatus inserted under their orifice, and when well distended the tube should be withdrawn and the gas left in contact with the part for fifteen or twenty minutes each time. The inverted funnels on the hip and shoulder do not answer the purpose so well, nevertheless, the gases can be made to penetrate the parts through them as can be demonstrated by the application of strips of test paper (saturated with acetate of lead) on the face, nose, armpit or inside of thigh, whilst such gases as carbonic acid, and sulphureted hydrogen are being forced through them on to the integuments, making the application of the paper always at as remote a point as possible from where the funnel is being pressed, so that the demonstration of the chemical change in the paper will be more apparent. The resort to this use of the dissipating and disintegrating powers of gases, was first suggested to my mind by the demonstrations of Bergeon's uses of them in phthisis, made by our esteemed president, Prof. J. Solis-Cohen, at the German Hospital in the Spring of 1887.

Case 1.—Disease of hip-joint $1\frac{1}{2}$ inches shortening; cure complete without any shortening, deformity or lameness.

On the 29th of June, 1886, when visiting Mrs. — for rheumatism, I noticed her grandson, aged about nine years, come cautiously into her room with a decided hitch in his gait, evidently walking on the toes of his left foot, and on asking what was the matter, got the answer: "Oh! nothing but a bruise on his thigh whilst romping with some of his playmates in the neighborhood." "Well then," said I to his mother, "You had better put on him some of the earth" (which his grandmother was using with much satisfaction). I saw nothing more of the boy, but some days afterwards, was told the clay had done him good.

A month later his mother called at my office and said that Harry was still very lame, and they feared something serious was the matter and would like me to call the next day and examine him. This I did, and found him with all the characteristics of hip-disease in its earliest stage, fullness of buttock, flexion of thigh with pain in the front, inversion of foot and disposition to keep the latter in a position so as to prevent any of his weight being brought to bear on the heel. I ordered his mother to have Mr. Gemrig make one of his Thompson hip-joint machines, long crutches, and a three-inch-high sole shoe for the other foot, and while they were being made, he was to keep in bed with that knee supported on a rolled-up pillow. The earth was to be constantly worn by him around about the hip-joint

as well as on the front of the thigh. He was to have full diet. The boy's age and temperament were very much against his maintaining the rest so ordered. His mother did, however, succeed in keeping the clay constantly on him, and when she saw him on the morning of August 4, 1886, he told her, he had not a particle of pain anywhere about his thigh as heretofore, that it had all gone in the night. But, when she went to renew the clay she found a big lump on that buttock the size of an egg, which was very tender when pressed on. This alarmed her and I was summoned.

On reaching the patient I soon found the head of the os femoris was out of its socket and on the dorsum ilei, and I insisted on the fact that he must have had some other accident than what I had first been led to suppose, I also declared he had not been keeping himself so quiet as I had directed he should. Then I made careful measurements which showed this limb to be actually one and a-half inch shorter than the other. These measurements were made from the umbilicus and the anterior superior spinous processes of the ilei to the tuberosities on the inner condyles of the femur, as also to the internal malleoli. Then, not yet having the apparatus, I applied a thicker (half an inch) layer of the clay over the joint by means of scutetus strips in the groin and on the buttock above the head of the os femoris, so that when dry they would serve to prevent its riding up as much as possible; I also secured greater flexion than before of the knee by binding it on a much heavier pillow.

On my visit the next day I was told it had been ascertained that the boy's injury had been from jumping off the roof of an old abandoned privy-house which was about ten feet high, while playing with his companions the day he first experienced his pain. His fall upon his feet then occasioned him severe pain up through the left thigh, which afterwards became fixed on the front and about the middle of that part. The report of his condition was much more satisfactory than had been anticipated, on this morning. He had rested better, had made no efforts to get out of bed during the night, evidently from having been carefully watched. From then up to the 18th of August (when he received the apparatus), he continued to do well. On that day I put it on, myself, still continuing the applications of clay as before. I ordered a continuance of the clay dressings night and day, never to put the lame foot to the floor, but always using the crutches to get out of bed; also giving permission to leave off the apparatus while in bed.

These instructions however, he did not follow, and finding this to be so at the end of a week, as a matter of discipline I ordered that he should be kept constantly in bed, with the complete dressing on, until the end of August, when he evi-

dently realized that I was determined to make him follow my orders, and submitted. I was glad of this for I was anxious to have him getting about; for two reasons, one, the very hot, close weather, and another, his total freedom from either pain or tenderness by pressure directly in the buttock, both good reasons why he should be out of doors as constantly as possible. The buttock of the lame side was then fuller and firmer than that of the other side, and succussion through its heel several times in rapid succession developed some tenderness in the joint. I then made more traction on this joint through the apparatus than I had been doing before, and finding that such could be done steadily without occasioning any distress, I kept it up until the end of October, when there was no shortening to be detected by me. I then gave him more freedom in going about, without however, making any change in his topical appliance; on the contrary I directed that he should be closely watched to prevent his presuming on his progress. I also then put him on emulsions of cod-liver oil and hypophosphites to prepare him for the near approach of our winter weather. They had a very happy effect, and were continued through the season and until the spring of 1887.

At the beginning of that year, actually on the morning of Sunday, January 2, 1887, knowing that I should find all his folks at home I stopped there to advise with them as to when we were to let him go about without the apparatus. He had then been wearing it constantly for four months and had been two months without a trace of shortening in the limb. He was very impatient to get rid of all his impediments to full and free locomotion. His general condition was admirable, he looked the picture of health, and finding no trace of any trouble about his hip, either as to the condition of its capsule or the relation of its trochanters to the ischium-pubes or coccyx, I then gave him freedom to walk without anything about the joint. He did so, but with a good deal of hesitation, being at first afraid to put his foot upon the floor, then, to bear any weight upon it, and seemed quite glad when I gave him back his crutches. I directed his folks to encourage him all they could after I left, to walk, and his mother to reapply the clay every night at bed-time, and to take it off in the morning when he got up, so that he could use the joint freely through the day. The next day, however, he was on his crutches and went to school with them.

I found he did not make much progress in getting about with all the liberty given him to use the limb. Indeed he limped in a marked manner at the end of the next two months, and a thorough examination developing nothing wrong beyond a want of full tone in the muscles of that limb, I then, in February, began localized electricity both in its primary and induced currents,

to all the parts; which improved them so much that by the end of June there was no appreciable difference between the two limbs; and yet he would at times limp as badly as during the first month after laying aside all its supports. I then used the gases over the joint, by means of the funnel apparatus, with the effect of quickly developing more freedom of motion, and, what I made a memorandum of at the time, of sleeping with the limb flexed and drawn up as he had been in the habit of doing with the other all along. The proper season coming around, his mother took him for a short period to the sea-shore and indulged him in as much bathing as he desired there. When they came back he had still a hitch in his gait, but frequent examinations showed no cause for it other than a nervous habit, and I directed that no further concern should be shown about it. He went to school constantly through the winter (1887-88) and late this spring he went away on a visit into the country in Ohio, where he staid until this autumn, running about constantly barefooted with a companion who was in the habit of doing the same; the effect of which was to cause him to forget all his old ways and to make him free of every peculiarity in his gait.

As can be seen by his photograph taken on the 13th day of this month and also by his own presence, he is now entirely free of any trace of hip-disease or lameness.

Remarks.—The treatment of this case has been of the most satisfactory character. During the whole time, *i. e.*, over two years since it began, it required but little over three weeks detention in bed, and that would not have been necessary if the apparatus had been ready and the patient submissive. On the authority of Mr. Gemrig, the instrument maker, who has had an experience of over forty years in such matters, a cure like it is never seen. He says: "The apparatus is always worn as long as in this case, and where there has been any shortening previously, the patient when cured, has always had to wear some thickness of heel at least on that foot to walk perfectly."

Case 2.—Diseases of Wrist-Joint—Suppuration—Two Fistule.—Loss of power in all joints connected with it. Treatment now for over six weeks with dissipation of diseased action, and partial recovery of function.

Owen J. S., æt. 23 years, was injured in July, 1885, whilst working at Plymouth Rolling Mills, Conshohocken. He was at that time taking part in the annealing of a sheet of black-hot iron, and losing his balance, fell forwards, coming with all his weight on said hot sheet, striking it with the palmar surface of his left hand, so extended as to receive the chief part of the force on the integuments directly over the trapezium and unciform bones there. The burn was a deep one; dressed immediately by his companions with white lead

and benzine, and he resumed his work as such men are in the habit of doing, not taking much account of the accident. He was, indeed, steadily at his work till the end of the year without seeking any medical advice, although the burnt surface had never become firmly healed in that time.

In the following February, when work was slack, and he was experiencing constant suffering in the part, he sought the advice of the physician of that vicinity, who ordered him a salve which he continued, as faithfully as is the habit of iron-workers, during nine months. In which time the doctor had several times to open abscesses which generally pointed close over the trapezium; once he had to run four of such openings into one. The most profuse abscess, however, was along side the flexor tendon of the ring finger. It discharged steadily for five months after its first opening. During all this period, he was constantly at work, suffering at night from pain so that he had often to take morphia for its relief. During Easter this year (1888), he got frolicking with some companions, and struck one in the mouth with the back of this hand. Since then it has been much swollen and the seat of much pain.

A month later, after severe rigors and with no abatement of pain in the wrist, he had a number of abscesses (4) gather and break in the armpit of that (left) side. These were discharging freely when he first came to me (September 17). He was then much emaciated, looking very distressed, and was holding the wrist in position of extreme pronation, with great care by the other hand. His left fingers were all extended and immovable at their metacarpal joints, the dorsum of the carpus was elevated more than half an inch above its normal position, very pale, somewhat bluish in tint, and so tender that he could not tolerate any pressure or manipulation there. The swelling and width of the joint were such that the whereabouts of the styloid of the ulna on its side, and that of the radius on its side, could not be determined. The palm of the hand was so much swollen up to the digital joints that I could not see where the openings from the abscesses had been. There were so much discoloration and boggiess under the abductor of the thumb as to impress me with the idea that there was deep-seated suppuration thereabouts, but I did not examine it critically either by manipulation or needle exploration, for I wished he should get the full benefit of twenty-four hours wearing of the clay before making such an examination. I therefore proceeded to apply the clay in the form of a paste all over the parts from midway of the fore-arm down to the extremities of all the fingers, and of a thickness of at least half an inch everywhere, surrounding it with a film of cotton wadding. I then applied a roller bandage

for its further retension, and put the fore-arm and hand in a sling. This was all done without occasioning any pain, and I sent him home to return next day.

He came the next afternoon looking well pleased, and said that he had had a good night's rest, but since day-break had been quite annoyed by the traction of the hairs on the parts covered by the clay. This I quickly showed him was the best evidence of improvement in his condition, that it was the result of marked shrinkage, especially on the back of the hand and fore-arm, after the dressing had become well set and dried so as to hold on to the hairs there. I indeed had to cut the clay free from those hairs by large scissors, and in doing so, showed with them beneath the set clay how much the integuments had shriveled away from it. After the dressing was so removed, I adjusted a gas bag up over the parts as far as the said dressing had been. This required some time and great caution to avoid exciting pain. When it was accomplished he bore it without complaint and was pleased with its distension, for it occasioned decided relief all the time it was so left on, a period of twenty minutes, when, as I allowed the gasses to escape and drew the bag off, I showed him how water had been formed by them to such an extent as to flow freely off the parts, and he was then able to show me the cicatrices of the openings, formerly in the palm, and which I could not (as stated) see the day previous. I renewed the application of the clay paste, fixing it this time by a layer of tarlatan, and when I got it on I slowly raised his elbow to the level of his shoulder with my right hand, whilst I maintained his hand and fingers apparently in their original position of extreme pronation with my left, elevating it however, as I did my right. I then set the hand, wrist and fore-arm in this new position, midway between pronation and supination, on a Bond's splint (for fracture of the lower end of the radius) and fixed them in it by some wadding and a roller bandage.

This dressing, as so perfected, was renewed every day after the application of the gases for about the same length of time on each occasion, to the end of two weeks, that is, until the 21st of September, when the shrinkage ceased to be so much, and the dressing could remain fairly in place for two days at a time.

During those two weeks the relief experienced by the patient was very constant, and such in the first four days as to allow him to work in the mill with the right hand every day, and at the end of that period he could flex all his fingers but the ring finger, when he had the gases on, and could endure my manipulation of them without complaint. After the tenth day the styloid of the ulna was readily to be seen, and the point of tenderness manifested only between it and its side of the radius. All appearances of suppura-

tion or distension in the palm had then gone, and the patient could produce some movements in the extensor tendons of the fingers.

At the end of the third week of my treatment, the tumefaction had disappeared so completely from the dorsum that any one could readily perceive the motion in those tendons of the extensors as he essayed to make them. This was in the latter part of September just past, when everyone here can remember we scarcely ever had a day without rain of a severe character. Like a true rheumatic, he always before those storms experienced pains throughout his system, and especially in his lame limb. I gave him some salol (gr. x doses) to meet those symptoms, and it speedily relieved him.

The local treatment was continued the same for the first ten days of this month (Oct.), being renewed every other day. After that time it was only disturbed twice in the week and on each of those occasions; localized galvanism was passed through all the muscles of the fore-arm, during twenty minutes each time.

The use of the Bond's splint was abandoned on the 16th of this month, eight days ago, and the patient has developed through exercise, considerable power in the parts. I have also during that time given him three applications of galvanism, evidently with benefit.

His photograph was taken the day of his leaving off the splint.

Case 3.—Disease of Elbow-Joint—Suppuration—Seven Fistulae, Necrosis, and Rigid Ankylosis—Cured with Recovery of the Functions of the Joint.

George R. C., married, æt. 33 years, shoemaker by trade, has been living in S. Camden (Kaighns Av.) for sixteen years. Had two years previous to going there, (eighteen years ago), his right eye destroyed by some lime thrown into it. His health was afterwards good until the early part of March, 1885, when he was taken down with typhoid fever, with which he was ill for nine weeks. He then got about, but soon had a relapse—as it was pronounced—with no trouble in the bowels, but great distress in his breathing, cough and abundant expectoration, the latter symptoms persisting for a full year, associated with general breaking down, so that he was not able to follow his trade during the winter of 1885-86.

In January, 1886, he was seized with pain in his right elbow at its inside, on rising one morning, without any assignable reason, and he supposed from its nature, that he had been sleeping upon it. This pain grew worse, and became so distressing as to prevent his getting any rest for a long time. His family physician saw him on that day, ordered the joint to be painted with tincture of iodine, but not to be restrained in any way. His distress grew worse steadily, and at the end of four months, he sought the advice of

another doctor, who treated the joint by a succession of fly-blisters and poultices, with sedatives and internal remedies for two months, without any abatement of his sufferings. Then, after six months' suffering altogether, he placed himself under the care of another physician, whose directions, he says, he followed faithfully for four months, without any benefit. During the whole treatment of ten months no one had ever put the joint to rest on a splint, or even directed him to keep himself at home. The man was evidently disposed, from his own confession, to be negligent about himself. The last of those who treated him explored the joint by a needle, and decided his case to be, as the patient says, "dropsticuli." Shortly after this the patient had some severe chills, irregular as to time of occurrence, but constantly associated with sweats. These were especially at night, in the beginning of January, 1887, and on the 25th of that month, he first called on me in Philadelphia and gave me this sketch of his case.

His carriage and all expressions gave him the appearance of long suffering and much emaciation, which was aggravated by the condition of his right eye, making him represent very well a case of extreme blood poisoning, such as one sees at an eye-clinic, now and then. He came to me recommended by an old patient of mine, and looked as if he had been some time making up his mind to do so. The whole of this (right upper) extremity, from the insertion of its deltoid down, was much swollen and rigid; the forearm and hand partially supinated, the elbow very distorted and extended, more than thrice its natural size, with many points around it clearly indicating by their elevations and discolorations, the presence in them of deep-seated suppuration, the largest one being down on the fore-arm at the outside and near the point of insertion of the pronator radii teres, a number on the inside, and one above the olecranon on the back of the arm where the exploration had been made by the last attendant he had had. He was evidently much afraid of my hurting him by a thorough examination, and suggested that I should give him a chance for one night's rest before subjecting him to any. This I agreed to, and proceeded to apply a full dressing of the earth all over, of the thickness of half an inch, covered by a split layer of cotton wadding, carefully retaining it by two full length rollers applied from the finger-ends up to the deltoid. This made a firm comfortable dressing for him with which he went away rejoicing, after being told not to take any anodyne to make him sleep, as he had often done by previous advice.

The next morning he reported himself early at my office, looking very different from what he had the day before. He said that after an hour's wear of the dressing, he had been free from pain,

had slept very soundly the night through, and when he woke up in the morning, the dressing was all off, but proceeded to assure me that it was no fault of his, as the whole thing had slid down and off his hand while he was asleep, which was in consequence of the shrinkage of the parts on which I had applied it. He had abstained from washing the limb so that any one could see by its color that the dressing had really become detached, and had itself fallen off.

In this condition I had his photograph taken at once, regretting that I had not anticipated such a change by that dressing, and deferred its application until I had secured my negative to represent the original state of the limb, which the picture I got was far from doing. The presence of the yellow clay in the form of a fine powder not only rendered the outline of the limb indistinct, but concealed in the field of the lens, all the points which I had recognized before any dressing was put on by me, as where suppuration was present beyond all doubt.

He could not this morning (Jan. 26) tolerate any effort on my part to determine whether the joints were ankylosed, and after the photograph was taken, I applied a dressing much in the manner of the first, but heavier and better secured. It retained its place, and was all intact when I examined it the next day, but was so loose from the shrinkage of the parts from what they were at the end of the first twenty-four hours, that I could easily pass my finger under it, and so not only detached it, but inspired him with more confidence that I would not hurt him handling it. I therefore dressed it again without any exploration. The extreme rigidity of the limb can be seen very well in the photograph.

The patient visited me every day for the rest of January and through February, with the exception of three days when the Delaware was so obstructed by ice as to prevent travel across it. These omissions fully convinced him of the necessity of the daily renewal of the dressing, and served to make him very constant in his coming. In that period of five weeks a great many changes occurred; thus, on the twelfth day the depot of pus and sloughing tissue on the fore-arm close to the insertion of the pronator radii teres, the scar from which can well be seen at present, was ready for opening without going deep into the parts. Its discharge was fetid for some time afterwards when I took the dressings off. Its evacuation brought out more prominently the enlargement of the elbow, and was followed by a discharge from the back of the joint where the acupuncture exploration had been made. The reduction following these enabled me to apply a jointed splint over the dressings (but perfectly straight) on the flexor surfaces of the limb. It made the dressings still more secure than they previously were.

On one occasion I exhibited the case, at the

request of Prof. W. H. Pancoast, before his class at the Medico-Chirurgical College, and those of his colleagues here to-night who were present there can recall the desperate appearance this man then presented. There were five fistulous openings about the joint, through one of which, on the inner side, I passed a fine probe attached to a sounding-board, and when I got its point down to the inner condyle of the os humeri, all at the lecture were able to perceive the sound of bare bone which I elicited, and can recall the Professor's declarations that it would be absolutely miraculous if I made a cure in such a case.

Early in March, when all the points around the joint (seven in number) had been opened and discharged freely; he showed very well the benefit of cod-liver oil, iodide of potassium and salol which had been ordered for him, and which he had taken constantly from the time of my first having charge of him. Stopping the iodide when acne appeared on his face, and substituting the salol in its place until they were dissipated; then going to the iodide again as long as there was any thickening of bone, periosteum or ligamentous tissue.

By the middle of April, I had had some experience with topical applications of the gases in kindred cases, and arranged to apply them to him in addition to the clay as part of the treatment. I made the first application of this kind to him at my dressing on the 20th of that month. After the gases had been kept in contact with the parts all around for twenty minutes, and the bag was taken off, each one of the five fistulous orifices which were then open, was seen to be surrounded by a black ring of carbon, and the closest scrutiny could not detect any odor, either of pus or sulphuretted hydrogen about them, and yet a strip of acetate of lead test paper laid on his nose showed by its blackening the exhalation of sulphur there.

Three repetitions of the use of gases in the course of this week were followed in the next week by a thorough freeing of the parts of all odors, and a very noticeable dissipation of the discharges. This improvement continued so markedly that I did not find it necessary to change the dressings more than nine times during the next month (May) and twelve times in June. At the end of the latter he had become possessed of sufficient confidence to repeat the dressings when they became loosened, himself. The joint had then become, as I supposed, firmly ankylosed in its extended posture. I had, indeed, made no attempts heretofore to effect any change in it either by the screw, at the joint of the splint he had been wearing, or by massage and flexion, for fear such might prevent or even retard his cure. He was still in too precarious a condition to hazard any such.

In July he went to the seashore and pursued

the treatment there with decided benefit, but unfortunately he returned too soon, for coming home in a very hot spell of weather, he suffered much from the heat at nights in Camden, and was impelled once to leave his bed on the second floor-room and go to sleep on the floor of the piazza of the house. There he was seized in the night with a severe chill followed by fever and a return of suffering in the joint, which he had not had since the first dressing was applied to it by me on the 25th of January, and he had much sweating, with albumen in his urine. Within twenty-four hours afterwards several of the tracks of the sinuses at the elbow became distended, and then discharged showing beyond a doubt the that he had sustained a serious relapse.

The alarm and the disappointment as to what was to be the result of this, were, of course, very great to me, and I did not refrain from expressing them. I then felt compelled for the first time, to keep the earth wet on the parts for twenty-four hours by surrounding it, when so applied, by waxed paper as an air-tight envelope. This encouraged the widening of the sinuses and the free escape of discharge, and so produced a very happy effect, and the patient promptly reacted.

Then, for the next fifteen days, I renewed the drying earth dressings and the use of the gas applications every twenty-four hours, and at the end of that time I removed two small spiculæ of exfoliated bone, mere scales, one from each of the fistulæ over the inner condyle. After that occasion the three points which were then discharging, quickly closed, and I ceased the daily renewal of the earth and the use altogether of the gas applications. The patient was then so impressed that he came to me every other day through the rest of August and the whole of October and November, continuing the dressings the other days himself. By the end of that time, all the signs of suppuration and inflammation, even to that of abnormal heat of temperature, had disappeared about the joint, which was perfectly rigid. The atony of the muscles was very great, and at the beginning of December I ordered him to take compound phosphites and let me pass the galvanism through them daily.

This treatment with the consequent daily renewal of the earth dressing was continued until the first of this year. Then he came to me every other day, when I made efforts for a couple of weeks, by passive motion with him under the rapid breathing, but failed to accomplish anything extra. He failed himself to make the needed efforts in the breathing to produce any insensibility such as I have had often with patients before; I therefore gave up trying it with him, and directed him to let me dress every other day without intermediate changing on his part. This he did until the middle of March, when he took to dressing himself without my seeing him, for

the reason that he had got possession of the news-stand at the river ferry, which kept him constantly occupied. It was in consequence of this that I did not see him again until the evening of Saturday, June 16, when he was perfectly well, but with a limb, as he said, like a pump handle. I then applied a vapor of rhigoline 1 part and aqu. menth. 2 parts, around the elbow for some fifteen minutes, and made some efforts at flexion. They resulted in some, very trifling, breaking away of adhesions, but I had to desist on account of the patient being conscious and making efforts to resist me. This attempt was so brief and limited as to merely encourage me for another which I promised myself to make with nitrous oxide gas when satisfied that this had occasioned no harm.

I made it on June 19, three days later, at Dr. Kimmell's office, 1306 Walnut street, where the doctor gave the gas and I broke up all the adhesions of the joint without much difficulty by flexion, extension, pronation and supination, the chief obstacle being at the inner condyle of the humerus, and it demonstrated only at the extreme of flexion, but not anything more than dense fibrous tissue would cause. He expressed himself as feeling tender around the joint when he recovered from the gas, but not as suffering pain. I reapplied the earth dressing immediately on the flexed splint and had him call on me the next day, when he was so free of all irritation that I told him to go on with dressing it himself every day, when he should try moving the joints each time.

At the beginning of the next week he called showing himself confident by the motions he could effect in all the joints that his recovery was to be complete. Since then I have not seen him more than half a dozen times, the last examination showing slight embarrassment of supination at the head of the radius and of extreme flexion at the inner condyle.

ADDENDA.

In the preparation of this paper for its original purpose, that of a communication to be discussed at a meeting of a medical society, and relating as it was intended to patients to be present there, much in regard to them had to be implied or left untold as then uncalled for. This was especially so as regards the details of the diagnosis of all of them, as was shown in the discussion which followed its reading.

In Case 1 it was stated that when I was first summoned to examine the lad I found "all the characteristics of hip-disease in its earliest stage," of course implying not only the absence of dislocation of the joint which does not belong to that stage of the disease, but that I had sought for its signs—had considered the relations between the trochanters, the ischia, and the pubes of both sides, and had failed to find any signs of such a dis-

placement. Then the statement made shortly afterwards, of how and when such dislocation did occur, also made it unnecessary for a declaration of its non-existence prior to that date, particularly as my efforts were evidently to be as concise as possible in my statements.

The testing for the penetration of the sulphuretted hydrogen into the system and its elimination by the skin was made in that case by the strips of bibulous paper charged with acetate of lead and applied across the right ala nasi. These pieces of paper then were browned in nine minutes after the gas was brought and kept by a funnel in contact with the skin of the hip.

Case 2 was brought forward for the special purpose of showing what progress was made at the end of six weeks of the treatment of disease of the wrist with him. He was then free of all pain, but could have some provoked about the joint by harsh handling and by attempts at passive motions of considerable degree there, by either forced flexion, extension, pronation or supination, or by heavy pressure or succussion on the radio-carpal joint. Yet limited motions and pressure of a voluntary character without exciting pains were shown to be possessed by the patient after, as well as before he was subjected to promiscuous examinations by many members of the Society present who wished to make them, and tested well his endurance. The pains so provoked ceased, however, with those latter testings.

The demonstrations of the sulphur passing into the system from the tegumentary surface of the diseased extremity when the gases were being applied on it by the gum bag, in this case, were made chiefly by the patient holding the test paper in the palm of the opposite hand. The discoloration was always there effected between seven and ten minutes after the gas was first passed into the bag.

The consequences of the relapse which occurred in Case 3 served to confirm the diagnosis of "disease in the elbow," as originally made by me. The distension of the sinuses then, and their being widened by maintaining the clay dressing constantly wet on the limb for twenty-four hours by covering it with waxed paper, gave me every facility for exploring inside of the joint. I then, by means of the long delicate probe attached to the sounding board, penetrated it not only along the two sinuses over the inner condyle of the os humeri through which spiculæ of bone afterwards came away, but along the one discharging by an orifice on the forearm. The cicatrix now to be seen there shows that there had actually been two distinct openings at that locality on the forearm, the lower one to a tract outside of the biceps flexor cubiti, and the upper one more on the fleshy surface of the supinator radii longus, which led into the joint by a very straight line to where its surfaces constituted by the trochlea of the humerus

and the coronoid of the ulna, and nearest in front to the integuments when the forearm is extended. The probe of delicate wire passed between those surfaces sufficiently far to indicate clearly that its point was on them and that they were not denuded of their synovial membrane—but were bound together by inflammatory products there.

The testings for the passage of the sulphur vapor in this case were made on the ala nasi of the opposite (left) side, the gas being applied by means of a gum bag over the diseased joint.

ON THE RELATION BETWEEN THE GENERAL PRACTITIONER AND THE CONSULTANT OR SPECIALIST.

Read before the American Academy of Medicine, November 13, 1888.

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Four years ago¹ I ventured to present to this honorable body some thoughts concerning "Specialties, and their Relation to the Medical Profession," which were kindly received in many directions. The subject was so large a one that it could be only partially considered within the desired limits, and the discussion of certain points relating thereto was deferred until another occasion, which I now avail myself of, by the kind invitation of your worthy President.

As the points now to be considered in regard to "The Relations between the General Practitioner and the Consultant or Specialist" have a very close bearing upon those discussed in the former paper, it may not be out of place to very briefly indicate the line of thought there followed out, and to give a summary of the argument then presented.

1. Specialism was found to be a natural, healthy outgrowth from general medicine, as one and another person engaged in the study and practice of medicine has emphasized and developed one portion or another of the vast field in which all have labored.

2. The science and art of medicine has, in company with other sciences, become so vast that no one mind is capable of fully grasping every portion of it, and every medical man is unconsciously more or less of a specialist, or more qualified in certain lines of knowledge and experience than he is in many others.

3. Specialties have aided greatly in the advancement of the science and practice of medicine, by the concentration of thought and experience in special directions, and by collecting and utilizing large numbers of cases for the instruction of those studying medicine.

4. The several branches, or specialties, into which medicine is divided, are so great and extensive each, that the study and practice of each branch is sufficient to fully occupy the time and thought of any one individual, it being difficult even to follow all the advances in any one particular line or department of medicine.

5. In order to properly follow and develop one of the specialties in medicine, the medical man should be particularly well educated, theoretically and practically in general medicine, and should have experience in the same before taking up a special branch; the highest type of a specialist is one who, after thorough training and experience as a general practitioner, develops a special branch in his practice, and more or less gradually comes to devote the greater part or all of his time to the same. In other words, the specialist should be a good physician *plus* the particular knowledge of his specialty.

6. The practice of taking up a specialty immediately after graduation, without such training and experience, is to be deprecated, and is too frequently the cause of a want of success practically, or of a narrow-mindedness which must and does act prejudicially, both for those under treatment, and for the scientific development of the branch of medicine represented.

7. The tendency to specialism in medicine cannot be arrested, both because the vastness of medical science demands it, and because the public require and will pay for the highest attainable knowledge, experience, and success in this as in all other matters relating to human comfort and welfare.

This being, then, the position of specialism in medicine to-day, what relations do exist and should exist between the general practitioner and those who stand thus in a somewhat peculiar position in the ranks of the medical profession, namely the consultants and specialists? for of necessity there must be some relations, inasmuch as they are constantly coming in contact, through the agency of those whom both seek to cure of their maladies.

It will be noticed that I have included the so-called ordinary consultants in medicine and surgery with the specialists, for the former are really, for the time at least, identical with the latter, they being called in consultation because of their special knowledge in the particular case in hand. Moreover, the true and properly-educated specialist really stands on the same footing, according to what has preceded; for he is, or should be, not only a physician or surgeon who is thoroughly acquainted with general medicine, theoretically and practically, but also one who has devoted particular attention to, and acquired peculiar knowledge and skill in some special branch or department of medicine, or class of diseases.

¹ Annual Meeting Oct. 4, 1884. THE JOURNAL, Dec. 13, 1884.

We may best compass our subject by considering the various points separately, and these may be discussed under two great divisions: *First*. As relates to the general practitioner's side or aspect of the question; and *Second*. As relates to that of the consultant or specialist.

First. As relates to the general practitioner.—Here we may first consider the negative side of the subject. The multiplication of specialties does not signify that the general practitioner is to become simply the feeder or the distributor of cases to those who have given special attention to each particular branch. It would be manifestly improper, and productive often of harm to the patient, if as each individual organ was affected he should seek the aid of, or send the case to, some one who had devoted special attention to this or that particular "ology." His education in general medicine should include sufficient knowledge to make him to cope with the ordinary run of practice in all departments, with some few exceptions, perhaps, and it may be safely said that with his acquaintance with the patient's constitution and peculiarities, he can treat a considerable share of the cases belonging to special departments quite as well as one who has made a specialty of the same. This is more particularly the case since, by the multiplication of hand- and text-books, and by the various clinics and post-graduate courses, the specialists have done all in their power to make their special knowledge as generalized in the profession as possible.

But with all the zeal which can be put forth, as we have seen, no one man can compass the whole field of medicine and surgery, with an equal proficiency in every branch, and the honest practitioner continually must find himself in perplexity in some manner or other, and must hope at least, that some other brother practitioner who has perhaps had a wider experience in that particular direction, will be able to aid him in a matter of diagnosis or treatment; and if he is perfectly honest, he will acknowledge to himself, at least, that the interest of his patient demands, and really should have aid, which he feels he cannot furnish, and the natural impulse will be to seek such aid. Hence came, in former times, consultations in many directions, medical and surgical, with older physicians who had gained more general experience.

With the advancement of the science and art of medicine, surgery became the first general specialty, and it became recognized that one who possessed a taste and showed a fitness for surgery by coolness and patience, and who kept on hand a variety of surgical implements, was far more successful in dealing with surgical cases than the one who was not thus fitted for the work; then, gradually, there was added the qualification of experience, and the surgeon was an acknowledged necessity everywhere, and surg-

ery has been now an established department for very many years.

Perhaps the most striking and conclusive illustration of the value of a further segmentation of medical practice is found in abdominal surgery, which by the arduous and brilliant labors of its devotees has made strides which could not have been imagined fifty years ago; who can reckon or even conjecture the amount of comfort and human happiness which has been rendered by the ovariectomies, numbering thousands, which have been performed by the masters in this line of work, and their followers. Surely every family practitioner does not now feel justified in undertaking serious surgical cases, or in performing ovariectomy, without some special fitness and qualifications, which comparatively few possess.

It is not necessary to carry this line of thought further, but all who have seen much of practice, must acknowledge that cases about the male and female genito-urinary organs, the throat, the eye, the ear, the skin, the heart, the lungs, the joints, and the nervous system, have presented difficulties in diagnosis and treatment which have been solved when undertaken by those who had made special study of the same.

What, then, are the relations which exist between the general practitioner and the consultant or specialist? They are those which should exist between friendly brother practitioners, advising together with regard to the very best interests of the sufferer whom they are called upon to relieve, and whose interests they are bound by their high calling to serve according to the best of their ability.

But, says one, that is well enough theoretically, but in practice it does not always work so well, and one or the other physician often suffers thereby. Unfortunately this is sometimes true, but the *principle* remains also true that the best interests of the patient, who pays his money for it, should be served; and, what is more, the *fact* remains true, that the patient *will* in the end secure the service which is most beneficial. And so it sometimes happens that the general practitioner who has not secured for his patient the best advice attainable, will receive more blame and harm by not securing the aid, or turning over the case to another, than he could possibly have received by so doing. It is a daily occurrence for one in special practice to hear a family physician blamed, and that too, often very severely, by his own patients, for not acknowledging that the case was obscure and giving the patient the aid of the service of others; and the conscientious specialist often finds it very difficult to guard the honor and reputation, it may be of his best friends who are thus berated.

With the position of specialism in medicine at the present time, it is both the duty, and the part of wisdom, for the general practitioner to give

patients the benefit of their services, and that, too, before the cases are hopeless, and even before they have exhausted every means of relief at their own disposal. For experience has shown that often gain to the patient may be had thereby, and if the patient can pay for it and is willing to do so, he has the same right to it that he has to any other element or agent which can be employed in effecting a cure. And experience has further shown that the practitioner who honestly gives his patients the opportunity of securing relief in this manner, gains quite as much from his reputation for fair dealing as he might actually lose by the fees which a specialist might secure from the same patient, or even more.

It is further a fact, that the family practitioner by no means loses all the money which may be paid to the specialist, for in the first place, patients are more willing to follow out the treatment of the latter than they are of their family physician, and will often continue faithfully under treatment, and make the necessary regular visits, when before they have consulted their family adviser only at the most irregular periods, and have followed his treatment in a most desultory manner. Moreover, the fees as a rule are higher to the consultant and specialist than the family physician can collect, so that he does not in reality lose as much as might be imagined. The reason for the larger individual fees is found in the greater amount of time given to the investigation of cases, and also the very large expenditure of time which is often made by them in acquiring their knowledge and experience in study abroad and in public practice at home.

But another reason for sharing practice with consultants and specialists is found in the rights of these latter. As medical men, fully qualified and authorized to practice, they have a claim and a right to such of the confidence and support from their fellow men as they can honorably acquire. In entering upon the practice of a specialty they voluntarily give up their claim and right to gain a livelihood from treating a greater part of the body, and confine their attention to a single organ, or group of diseases. They have just as much right to care for the disease coming within the scope which they have marked out for themselves as the general practitioner has to care for the entire human frame. Now, because a friend of a specialist, who for instance, has just moved into a locality, requires some treatment other than the one which he is prepared to give, and so seeks a general practitioner, he is at once regarded as the patient of the latter, whereas his choice would have been the specialist, if he had not voluntarily declined to treat him outside of his branch. The illustration is given to show that the specialist has a right to a certain amount of practice, which, moreover, the public are sure to accord, when it becomes aware that to do so is also to their advantage.

This brings us to the consideration of the second branch of our topic, which can be briefly disposed of, namely:

Second.—The relation between the general practitioner and the consultant or specialist, as relates to the standpoint of the latter.

1. Is it advisable for the specialist to take general or family practice? It must be granted that scientifically and practically, it is far better for him as a medical man to see something beyond his specialty, his knowledge will be more rounded and symmetrical; his views will be broader and more practical, and he will really be able to treat his patients better, other things being equal, if he can have general medical experience than if he is wholly confined to the daily round of his specialty. But, on the other hand, there are reasons why it seems impracticable for the specialist to engage in general practice; the two conflict in point of time and hours, and practically he finds that he must choose between an office practice or general work. It would be well if he could keep up his general knowledge by service as visiting physician to a general hospital, but this is not always practicable.

One of the greatest objections to a specialist's continuing in general family practice is found in the continual conflict it causes with regard to the practice of other physicians. The specialist who has successfully treated a case which had before proved obstinate is continually asked to see others in the family for other complaints, and if he is in general practice it is immeasurably more difficult to refuse than when he confines his attention to a single branch. In either case it is unquestionably the duty of the specialist to utterly refuse to take other practice in families of patients who have been referred to him for consultation or treatment; it is his moral obligation, as well as his interest, to be loyal to the brother practitioner who in honesty has sought his aid for a patient in a particular line of practice.

2. What is to be done in regard to patients who have been sent or brought in consultation, and who subsequently desire or insist on being wholly under the care of the specialist alone? This is sometimes a serious and perplexing question and one which many a consultant and specialist has found difficult to solve in individual instances. I have put the question carefully to lawyers and business men many times, not as related to their own cases, but theoretically, and the universal reply has been that the patient had a right to choose, and that the specialist was in duty bound to treat him. But our Code rightly teaches that the consultant should only act when requested by the attending physician, and undoubtedly the rule holds good that physicians should be very slow to take patients from one another, especially when confidence has been reposed in one by a brother practitioner seeking advice for a patient. And,

higher than this, stands the Golden Rule, to do to others as we would have them do to us—which if more borne in mind and acted upon would solve many problems and many difficulties.

But, on the other hand, the Code recognizes that "in consultation the good of the patient is the sole object in view," and it must be granted that patients have rights in the matter. When, therefore, patients desire and insist on being treated directly by the consultant what should be done? As I believe, the patient should be informed of the ethical aspect of the case and asked either to request a note from his physician placing him in charge of the consultant; or, should the patient notify his physician that he wishes the proposed change, and unless there is some particular reason to the contrary the choice of the patient is to be followed. When the patient comes from a distance, or the emergency is such that it is desirable for him to give relief at once (and the patient desires the change) the consultant should write to the attendant, stating the facts of the case, giving the line of treatment prescribed, and then, either ask the patient to follow the previously mentioned plan, or he himself should communicate with the family physician, stating that the patient desires him to carry on the treatment, begging a reply expressing his wishes in the matter.

At the best, such changes in the medical supervision of a case are unpleasant, both for the consultant and family practitioner and will often require care and tact to escape giving offense; and not infrequently the best intentions and the most careful actions will still fail in avoiding some means of annoyance. But, as before stated, patients have rights in the matter, and can and will choose who shall heal them.

3. Numbers of patients come to a specialist directly from his general reputation, or from some other patient, or from some other cause: should the family practitioner be consulted or referred to in regard to these cases? Theoretically it were better, perhaps, if this could be done, but in practice it is impossible or impracticable. Patients have a right to seek aid where they think they are most likely to find it, and in the present state of medical specialism they are likely to do so more and more. The most, therefore, that the specialist can do is to seek to treat his brother practitioner, who has seen the case before him, fairly, and, as the Code has it, "the conduct or practice previously pursued should be justified as far as candor and regard for truth and probity will permit." Further than this he need not go, he has a right to prescribe for the patient independently and to all practical intents and purposes that is "his patient," at least as far as relates to the particular malady for which he was consulted. In practice undoubtedly the welfare of the patient is the first object, but in benefiting the one, care may and should be exercised not to harm another.

There are other points and questions which might be considered in connection with our subject, but must be omitted for want of time. Enough has been said, however, to show that the general practitioner and the consultant or specialist are not so widely separated as some have imagined; they are brethren in one noble calling, they should both be actuated by the same high purpose to do the most good possible to their fellow creatures, and while both have their rights and privileges, both will find these rights and privileges best conserved by seeking to remember and practice the Golden Rule.

4 East 37th Street.

PANCREATIC CALCULI AND RESULTING LESIONS.

Read before the Section in Surgery, at the Thirty-ninth Annual Session of the Iowa State Medical Society.

BY J. P. CRAWFORD, M.D.,

DAVENPORT, IOWA.

Lithiasis of the pancreatic duct is a disease of rare occurrence, though existing perhaps much more frequently than is discovered in the uncertainty of the real pathology involved in many conditions of abdominal disease.

The last decade has brought brilliant achievements in the new field of abdominal surgery and shed new light upon the existence of pathological processes involving the abdominal organs. The laparotomist, encouraged by a fair percentage of success, boldly and fearlessly explores cystic invasion and tracks it to its origin and source of development, completely subduing it by obliteration.

The pancreas though modest and retired behind its omental veil, richly fortified in front by the stomach and colon, in point of frequency in cystic growth, rivals the *echinococcus* with its hooklets, but claims no comparison to the more fruitful ovary. Surgical exploration and autopsical research show that obstruction of the pancreatic duct from whatever cause, traumatism, encroaching biliary disturbance, pancreatic calculi, down the role to the more grievous malignant degeneration, in fact whatever may operate to occlude the pancreatic duct, and bring about parenchymatous change in the gland tissue, results in the rapid formation of a smooth, painless cystic tumor, manifesting itself by epigastric fullness and ultimately prominent display of well-defined cystic growth, as the leading diagnostic feature of the disease though difficult to differentiate from cysts of other origin.

Pancreatic calculi and the resulting lesions, is the form of pancreatic disease which I desire to describe in this paper and furnish data from a case recent in my observation. But in the case I shall report this uniformly common lesion of cystic de-

velopment was absent, which may be accounted for by the resulting interstitial change in the organ not being, perhaps, sufficiently advanced at this stage to occasion it, the case terminating prematurely from the accident of perforation due to ulceration resulting in fatal peritonitis.

In November, 1887, Mr. A. F. W., a business gentleman, 62 years of age, in the enjoyment of ordinary good health and for several weeks unusually active in business and public affairs, was suddenly taken with pain in epigastric region which he supposed to be colic. A mild anodyne quieted this down, but same pain with greater severity returned next day. Patient being away from home was unwilling to give up, and with moderate doses of morphine was able to keep going a day or two, when he took his bed in great agony, from most excruciating pain. A very worthy medical gentleman was called in attendance. Large doses of morphine were required to quiet the pain and an opiate continued to keep him comparatively comfortable.

In a couple of days other symptoms developed warranting a diagnosis of peritonitis. I was telegraphed for, and on arriving in a few hours found the patient comfortable under the opium treatment.

There was very general abdominal tenderness and pain on pressure most pronounced in the epigastric region, and extensive tympanitis over the entire abdomen.

The disease terminated fatally on the tenth day after the first manifestation of pain.

There was nothing exceptional in the case from the symptoms and conditions usually observed in a general diffused peritonitis, unless it was the very moderate amount of febrile disturbance and equally low pulse—the temperature persisting below 100° and pulse maintaining regularity at 78. Both symptoms out of all proportion to the general character of the disease which was alarming in other features.

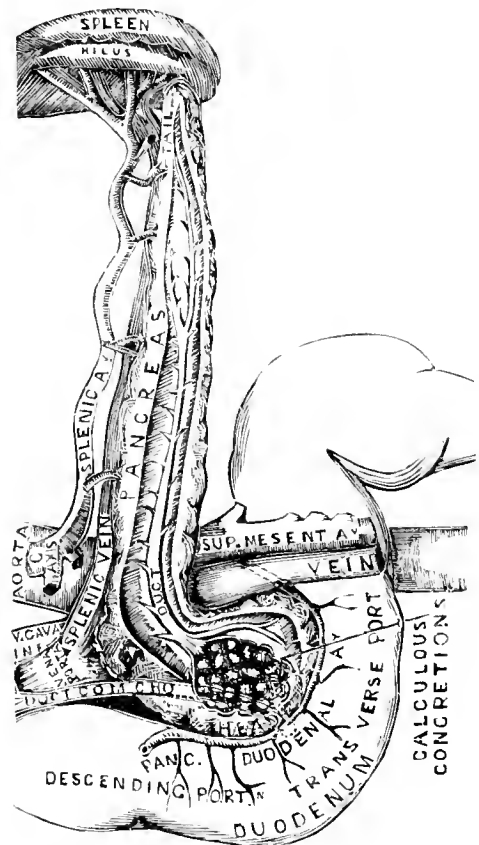
There was no manifestation of any exciting cause for the abrupt appearance of this fatal inflammation.

Rupture of the gall duct by stone was mentioned among the probable causes. An investigation was made to find the pathological element, though completely masked as far as the array of symptoms in the case indicated, that should account for this secondary inflammation to tissue, where violence is not tolerated and encroachment from any source is promptly resented.

Drs. Middleton and Allen, kindly made a post-mortem for me. The heart was perfectly normal, the lungs in condition to perform their function properly, and the liver of natural size and character. General diffused peritonitis was found with purulent exudation and inflammatory adhesions, centralized in the locality of the head of the pancreas and its relation to the duodenum having ex-

tended throughout the intestinal viscera. Under this mass of breaking down tissue with the natural relation of the parts much distorted in appearance and necessarily mutilated in consequence of the separation of the inflammatory adhesions, the pancreas was found enlarged and indurated.

On the anterior surface of the head of the pancreas, near the duodenum was discovered a nodulated condition which on closer inspection was found to be a mass of concretions as large as a peach stone made up of a number of smaller irregular shaped bodies. This mass was incarcerated in the pancreatic duct near its entrance into the ductus communis choledochus, being about an inch from the opening of the common duct into the duodenum, as shown in the cut.



The communis choledochus and cystic ducts were free, but the gall bladder was atrophied and filled with small stones.

Submitting these two formations to test, the biliary calculi when ignited burned as a torch, while the pancreatic formation refused to ignite like the cholesterol product. When analyzed, it proved to be phosphate of calcium, which is the composition of pancreatic calculi, though sometimes these concretions may be carbonate or both carbonate

and phosphate of lime. A catarrhal condition of the mucous membrane of the duct seems to favor the formation of these calculi by the precipitation of the inorganic ingredients of the pancreatic juice due to the altered chemical composition of the secretion. The wall of the duct enveloping this mass of concretions was found perforated, permitting foreign material to escape, which was the irritant provoking the fatal peritonitis.

Perforation of the walls of the duct is an accident which is liable to occur in this stage of the disease, from over-distension of the canal, ulceration from strangulation, abscess in locality of the organ and rupture of retention cysts into the peritoneal cavity. Any of these accidents set up sudden peritonitis, and as in this case may be the first marked intimation of a disease capable of such unexpected havoc to life. It still remains a surprising circumstance that so extensive a pathological condition could exist with evidence in the very nature of the case of a history antedating the sad climax, covering months, if not years, and be consistent with good health. This last statement perhaps deserves some qualification. As it refers to uninterrupted good health for a year and a-half before his death it is correct. But for several years previous to that the patient had, at intervals of three or four months, attacks of gastro-intestinal trouble lasting three or four days. These attacks would be ushered in with violent paroxysms of pain in the right hypochondriac region, extending to the median line, sometimes decided jaundice supervening. In character these paroxysms simulated hepatic colic; the passage of gall-stone was suspected, but failing to find concretions in the stools, it was uncertain whether gastro-duodenal catarrh might not account for the derangement. With the revelation which the post-mortem brought forward, it is clearly evident that either of two factors present could produce the recurring paroxysms. With the plentiful presence of gall-stone in the cyst, such phenomena would be expected almost of necessity. And could also be accounted for by the transit of a pancreatic calculi, a process so parallel to the passage of gall-stone, that it is said to be impossible to differentiate them.

It might be deserving of interest to mention in this connection a distressing symptom which the patient complained of, diagnostic when associated with other characteristic conditions, impressing him with the fear of heart difficulty, notwithstanding the most positive efforts to disabuse his mind to the contrary. It consisted of a momentary stitch of intense pain, deep-seated under the stomach and præcordial region. This would be experienced at intervals of a few hours, and at other times not for days. Such præcordial distress is spoken of as a very constant symptom attending pancreatic disease in general, when the enlarged and heavy gland encroaches upon the

solar plexus, certain positions of the body favoring its direct pressure upon this sensitive ganglia.

Lesions indicating impaction of the duct were entirely absent in the symptomatology of this case, rendering a diagnosis of calculi or any form of stenosis impossible. Aside from cancer, with its pain and cachexia, pancreatic disease in general is of difficult recognition. The particular forms are to be diagnosed only in cases where the decided indications are manifest, and then by careful elimination of allied conditions of more frequent and probable occurrence.

The train of symptoms suggestive of obstruction are the presence of the secondary lesions, notably the development of cystic growth in the epigastrium, the suspension of the physiological function of the organ which is denoted by fatty stools, rapid emaciation and debility from malnutrition; also pale yellow earthy color of the skin and the peculiar neuralgia just mentioned.

Without these manifestations a diagnosis cannot be attempted. The resulting lesions might have developed in this case if the degenerative changes in the gland had farther advanced before the accident of rupture precipitated the sudden termination of peritonitis. The perversion of the physiological function of the organ and the formation of retention cysts is due to parenchymatous changes in the tissue from interstitial inflammation set up by the irritation of the foreign bodies as well as to the immediate mechanical obstruction. Experiment has shown that in simple temporary obstruction of the duct the juice is disposed of by absorption by the tissue itself. In the *American Journal of Medical Sciences*, 1883, Johnson reported the collection of thirty-five cases of retention cysts induced by stony concretions, and from other statistics this is no doubt a very constant lesion.

Pancreatic calculi uncomplicated is scarcely amenable to treatment, from its doubtful recognition, but its resulting lesions in the nature of cysts, abscess, and accidents incident to pathological changes involved admit of surgical interference when plainly manifested.

Gussenbauer reports a case of a man with history of indigestion and rapid emaciation, pale dirty color of skin and swelling in region of the stomach. The rapid growth of the tumor behind the stomach, justified Gussenbauer to make a probable diagnosis of cyst of the pancreas or suprarenal capsule. The critical condition of the patient necessitated a surgical operation as the only hope of relief. An incision was made five inches long in the linea alba and peritoneal membrane. Omentum was detached and vessels compressed and ligated. Parietal peritoneum was sutured to the skin and the anterior surface of the cyst stitched to the margin of the wound, the cyst then drained with trocar and a fistula established.

The patient recovered and was discharged in

three weeks. His next three cases of cyst of the pancreas were mistaken for ovarian cyst.

To Dr. Bozeman, of New York, is accorded the most brilliant result, having effected a complete extirpation of the cyst. A lady was sent to him with her case diagnosed ovarian cyst. Bozeman in consultation with Thomas and Emmet confirmed the diagnosis. The patient had a history of attacks of indigestion for seven years. Two years later abdominal enlargement began to appear and the few weeks previous to the operation, filling up rapidly and symmetrically the whole cavity. The usual incision for ovariectomy was made and two gallons and a-half of fluid evacuated. When the cyst was partially withdrawn it was found to be free from the ovaries and its origin traced to the juncture of the outer with the inner two-thirds of the pancreas. The pedicle was secured and cut off, after separating quite an extensive adhesion. Patient made good recovery and was discharged cured on the 38th day.

Dr. N. Senn, of Milwaukee, reports a case of pancreatic cyst with the history of traumatism. A laborer was thrown from a wagon, striking the ground on the left side of his abdomen, a heavy keg falling upon his back. In a few days diarrhoea set in, reducing his strength. Complained of sensation of fulness and weight in region of the stomach. Tumor appeared occupying the epigastric and left hypochondriac space. Dr. Senn limited his diagnosis by exclusion to either a sterile echinococcus or pancreatic cyst, and decided to perform laparotomy and stitch the cyst wall to the peritoneal covering of the wound, and not evacuate till adhesions had formed, to protect against danger of extravasation into the cavity. He found the cyst wall so tender he could not prevent laceration and was compelled to evacuate and drain the cyst, which he did safely, by turning patient on his left side. Other than this he carried out the plan of his operation, finding a cyst which led to the tail of the pancreas. A fistula was established and in a few weeks patient was discharged in good health with perfect digestion and fistula entirely closed.

These charming successes in the midst of numerous disastrous failures, in attempts to secure the same results, only show the possibility of what may be accomplished in favorable cases, and when it is evident there is no other hope of saving life, such interference should be carefully considered.

Recent operations for the removal of biliary impaction and the more novel method of washing out and draining a peritonitis, suggest a way of arriving at the primary processes of these lesions, above described, and the possibility of removing calculi and directly reaching the sudden accidents, in consequence when fatal in character after ascertaining their true nature by diagnostical laparotomy.

But such serious interference could not be entertained in cases like the one under consideration, for in this instance the good health of the patient up to the attack of peritonitis and in the absence of any manifestation of the presence of such a lesion as was found to exist by the autopsy, the exciting cause to the peritonitis could not be other than a mystery and explorative measures unwarranted.

In other cases where the history has been significant, the primary lesions determined, inciting such a peritonitis, bolder measures might be wisely considered.

It is evident that we are in the dawn of an era in surgical progress of clean hands and skilful manipulation, when explorative laparotomy as a diagnostic measure will not only be regarded as a feasible, but a practical procedure to recognize many doubtful pathological conditions that are amenable to successful surgical interference. Until experience and legitimate success shall have crowned such an era, the past and yet present conservative and expectant attitude must not be indiscriminately abandoned.

MEDICAL PROGRESS.

MAMMARY INFLAMMATION.—At a recent meeting of the Royal Academy of Medicine in Ireland, DR. ANDREW HORNE read a paper on "Mammary Inflammation and its Treatment by Elastic Pressure." He believed the methods usually recommended and taught were gravely defective. Suppuration ought to be a very rare occurrence. Inflammation of the breast was almost always the result of infectious material gaining entrance through fissures and cracks of the nipple, and too much attention could not be paid by the attending physician when such a condition exists in the nursing mother. The method of treatment advocated was to envelop the breast in a layer of absorbent cotton. Having first painted the breast with a 5 per cent. solution of oleate of mercury and morphia, then having procured an elastic web bandage, five yards long by three inches wide, he makes equable and gradual pressure over the inflamed gland, thereby securing the most perfect rest possible. DR. MACAN said he had long used compression of the breast in certain cases, although he did not regard it as suitable where there was suppuration; but he felt that he could recommend Dr. Horne's plan, even where there was suppuration, as strongly as in other cases. It gave great relief to the patient, and was, he thought, a great step forward, especially as they now stopped poisoning their patients for affections of the breast. DR. MASON said the plan recommended would greatly extend the treatment of sore breasts by pressure. Pressure

was a very old mode of treatment; but the graduated mode of applying it which Dr. Horne put forward was comparatively recent, and seemed to have had most successful results. Varieties of plasters had for long been before them. Belladonna plaster he believed to be one of the best. In this kind of treatment it was most important to give the breast perfect rest. It was remarkable that women who did not attempt to nurse their children did not suffer from sore breasts. DR. HORNE, in reply, said the bandage he used was an ordinary web elastic. One of the reasons why he had adopted this bandage instead of elastic plasters, was that it was most difficult to put on elastic plasters in such a way as to get even pressure. Another reason was that elastic plasters were apt to produce an eczematous eruption on sensitive skins. That would never happen with his bandages. The belladonna and cere cloth plasters, which for a long time used to be applied in the Rotunda, no doubt used to give a great deal of relief; one reason for that being that they prevented the breast from being rubbed or used, or anything from happening to it which would lead to suppuration. As to Martin's bandage, patients to whom he had applied it complained that it caused uncomfortable heat; whereas his bandage, being more porous, allowed a freer circulation of air.—*Lancet*, Dec. 29, 1888.

A SIMPLE TEST FOR SOME IMPURITIES OF BALSAM OF TOLU.—R. A. CRIPPS: Balsam of Tolu is one of those products which, on account of its price and resinous nature, is very liable to adulteration. Such obvious adulterations as sand, earth, chalk, etc., can readily be detected, but this is not the direction in which most adulterated samples are sophisticated, other resins being naturally selected for the purpose. I do not claim any originality for the reaction which constitutes the test I now propose, but I have seen no communication recommending its use in testing balsam tolu, which is sufficient reason for bringing it before your notice this evening. About 30 grams of the sample are digested in bisulphide of carbon for about fifteen minutes, keeping it gently warm by occasional immersion in hot water. The clear liquid is poured off, evaporated to dryness, and, when cold, sulphuric acid added to dissolve the resinous extract. A bright red-rose carnation is produced, which, in the case of genuine tolu, remains of a distinctly rose hue for some considerable time. If, however, the sample be adulterated with either storax or ordinary resin, the rose color rapidly becomes more brown in tint. The best way to apply the test is by performing the operation upon a genuine sample by the side of the suspected one. In this way a distinct difference in tint can be observed if only 1 per cent. of the adulterant be present; with 4 per cent. of resin, or rather more

of storax, the difference in tint can be readily distinguished without the blank experiment. If to the sulphuric acid solution a fluid ounce of water be rapidly added the color of the resulting liquid is much duller and paler when ordinary resin is present than with the pure balsam.—*Pharm. Journal*.

NEW METHOD OF DESTROYING TATTOO MARKS.—DR. VARIOT has discovered a means of obliterating tattoo marks, a result hitherto reported to be difficult, and even impossible of achievement. He pours on the marked spot a concentrated solution of tannin, and works it into the skin by a series of pricks, just as in tattooing proper. A certain quantity of tannin is thus introduced beneath the skin. He then rubs the part with nitrate of silver, and allows the solution of the salt to remain *in situ* until the prick marks show out as black spots. The caustic is then wiped off, and the result is the formation of a black stain of tannate of silver. Inflammation is set up, and in the course of a fortnight scabs form, on the disappearance of which no trace is left of the original design, the only *souvenir* being a reddish scar, which in time becomes less visible. Various other plans have been tried without success—scarification, the introduction of opaque powders and caustics into the skin, etc. The tannin in this operation acts as a mordant, and in no case did he have to deal with troublesome suppuration, although if the area be large it is well to do a piece at a time.—*Medical Press and Circular*.

THE ANTIPYRETIC, "PYRODIN:"—Under this name a new drug has been introduced, which has undoubted temperature-reducing properties of a high order, the practical application of which, however, is much interfered with by its toxic action. Pyrodin contains as its active agent acetylphenylhydrazin ($C_6H_5N_2H.C_2H_3O$) a crystalline powder very sparingly soluble in water. According to the clinical and experimental observations of Dr. Dreschfeld, of Manchester, which have been confirmed by M. Lépine, of Lyons, pyrodin acts in the same manner as, but more powerfully than, antipyrin, antifebrin, and phenacetin; and it has also been used effectively in migraine and other forms of neuralgia, as in the lancinating pain occurring in locomotor ataxy (Lépine). Great caution, however, is required in its administration, as it is apt to produce jaundice, followed by anæmia, and even more serious symptoms due to hæmoglobinæmia. Milder toxic symptoms have occasionally followed the administration of acetanilid or antifebrin, and also of phenacetin; but as phenylhydrazin is a much more powerful poison than anilin, so also are the toxic properties of its acetyl compound much greater than those of acetanilid. In face of the poisonous

qualities of pyrodin, we must warn the profession against the use of this drug generally. In exceptional cases, and where other antipyretics have failed, it may be useful, but great caution should be used. Small doses only should be given, and at sufficiently long intervals to enable one to watch any toxic effects, with the first appearances of which the drug should be stopped. —*British Medical Journal*.

THE ETIOLOGY OF TETANUS.—According to M. VERNEUIL the microbe of tetanus comes from the horse. Following this opinion M. Richelot has cited, in a paper before the Académie de Médecine, two cases of tetanus supervening after ovariectomies, notwithstanding the most vigorous antiseptic precautions, and he attributed them to the emanations from a layer of manure deposited in the court of the hospital the night before the operation.

M. Ferrillon also reported a case following a wound made by a horse shoe soiled with manure.

On the other hand, M. Gailhard, a naval surgeon, found tetanus constantly on board an iron-clad vessel in which a horse never came; but might not the cases come from the emanations from the litter of the beef cattle on board?

Dr. Abadie, during the war of 1870, witnessed a severe epidemic of tetanus in the little village Or. Wounded patients left at houses escaped free, but those who were necessarily placed in a church on straw succumbed to tetanus. This is an important detail, for that straw was found to be soiled with detritus and dejections, either animal or human. M. Abadie thinks that in Richelot's case, one cannot trace the cause of the tetanus to direct inoculation from the hands or instruments, but that the transmission of the germs coming from the emanations of the manure sufficed to explain the infection. In other cases he had always found the close presence of manure.

In summing up after him, the etiology of tetanus, we may conclude that the infectious germ of tetanus does not exist in the atmosphere, and that its favorite seat is in the manure heaps, where fermentation goes on under conditions of temperature and humidity favorable to its evolution. —*Gazette Medicale de Liège*. Translated for THE JOURNAL.

LAPAROTOMY FOR ASCITES.—DR. T. A. ASHBY, of Baltimore, in the *American Journal of Obstetrics* for January, advocates explorative laparotomy being done in cases of ascites without any ascertainable causative conditions. Where the symptom exists, but there is nothing within reach by manipulation or physical signs can reveal any form of abdominal tumor or structural change to account for the same, then Dr. Ashby says that an operation to aid a more thorough exploration of the abdominal and pelvic viscera

is justified, but it should never be undertaken until all other methods of diagnosis have been found inefficient, and even then the surgeon should have a reasonable assurance that the information sought for can only be found by this method. In ascertaining axiomatically that explorative laparotomy, carefully and aseptically performed, is, comparatively speaking, free from danger, and should be undertaken in all cases where the surgeon has a reasonable hope of rendering a service commensurate with the risks it imposes, he adds that the latter are less in abdominal accumulations through the greater tolerance of interference possessed by the peritoneum in such cases.

GOOD BREAD FOR DIABETICS.—Samples of bread for diabetics were lately shown to the Section for Clinical Medicine, Pathology and Hygiene of the Massachusetts Medical Society by DR. J. A. JEFFRIES, who furnished the following formulas for their preparation:

One cup of graham flour; one cup of best bran previously scalded with one cup of boiling water; two eggs; German yeast or baking powder; salt to taste; one cup of milk or water. To be mixed with a *spoon*.

Such a bread contained 17.72 per cent. of starch, the equivalent of 19.68 per cent. of sugar.

One cup gluten flour; one cup best bran previously scalded; one teaspoonful of baking powder; salt to taste; two eggs; one cup of milk or water. To be mixed with a *spoon*. If the hands are used the result will be even more disastrous than in the making of ordinary bread. This bread is healthy, palatable, nutritious, and contains but 4.57 per cent. of starch, equal to 5.08 per cent. of sugar.

ELECTROLYSIS IN PROSTATIC ALTERATIONS.—Electrolysis, while applicable to all strictures of the urethra, is of permanent benefit in many of the morbid alterations of the prostate. It has an anæsthetising influence upon the terminal nerves at the point of application; it aids in overcoming spasmodic stricture of the prostatic urethra, in early relaxation of spasm by muscular exhaustion following the continued overstimulation; it seals the distention and relaxation by natural reproductive processes; it excites absorption and relieves the patient.—Dr. D. S. Davis, of Birmingham, Alabama, before Southern Surgical and Gynecological Association.

INCOMPATIBILITY OF COCAINE AND BORATE OF SODIUM.—In a paper to the *Société de Pharmacie*, M. LEVAILLANT said that in mixing these substances for collyria or gargarisma he had found a precipitate of cocaine. This will disappear on the addition of a few drops of glycerine.—*Arch. de Ph.*, November 5, 1888.

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THE SUPPRESSION OF DIPHTHERIA.

At the meeting of the Chicago Medical Society held January 21, DR. C. W. EARLE read a paper on "The Contagious Character of Diphtheria." The writer agreed with the generally accepted view of its etiology, but claimed that the profession seemed to quite frequently fail to grasp the real necessity for notification, isolation and disinfection. In the discussion which followed, DR. O. C. DEWOLF spoke of the difficulty he experienced in receiving notification of the cases to enable him to placard houses. He was quite sure that no means was more efficient in preventing the spread of diphtheria than the simple placard, and in his experience householders did not object to the notice, as it was for the general good; but he desired an expression from the Society as to the duty of every medical man to promptly notify the Health Department, of the occurrence of diphtheria.

In closing the discussion Dr. Earle moved the adoption of resolutions declaring it the duty of the profession to so report, and the resolutions were adopted with only one or two dissenting votes.

When the great mortality from this Northern scourge is considered, it is wonderful that no more active steps to limit its spread and propagation are taken. There were nearly a thousand deaths in Brooklyn, and eight hundred and fifty-eight in Chicago during the past year! and these great numbers are not materially in excess of the ratio in other cities of the Northern Section of the Union.

If there were ten per centum of this mortality from yellow fever, small-pox or cholera, public opinion—the potent factor in moving things in this country—would compel immediate concentration of sanitary forces upon this important question.

It is well known that isolation of the cases and disinfection will prevent its spread, why not apply the remedy?

The method of disinfection may well claim attention, for unless well done it is but a broken reed to lean upon. The disinfection in cases of diphtheria should include thorough application of antiseptic solutions to the throat and nasal passages of the invalid; disinfection by bichloride of mercury, of all excreta, whether sputa or fecal matters, the boiling of all linen used or worn in the bedchamber, the frequent sponging of the walls of the sick chamber with the "blue solution," or the solution of bichloride of mercury, the spraying of the upholstery with the same, and, after disposal of the case, the thorough fumigation of the sick chamber with the fumes of burning sulphur, and if there be a carpet, it should be sent to a steam cleaner.

These are the means which have been taken by that most efficient health officer, DR. J. Y. PORTER, U. S. A., at Jacksonville, Fla., for the prevention of the recurrence of yellow fever, and the same active and energetic treatment is needed elsewhere in dealing with the greater pestilence, diphtheria. Let us hope that the efforts of health officers everywhere, in trying to limit the spread and arrest the propagation of diphtheria, may be supported and sustained by every means within the power of the profession.

THE AMERICAN MEDICAL ASSOCIATION.

"So smile the Heavens upon this holy compact."

How the conditions have changed since the first regular meeting of the American Medical Association, in Philadelphia, forty-two years ago! Then, it was viewed as a triumph, that there were two hundred and fifty delegates in attendance, in spite of the New York opposition, now a meeting with less than two thousand members is looked upon as an ordinary affair and the membership of the Association is nearly five thousand! The original founders of the Association aimed high, they insisted that the colleges

should hold their courses for six months, and that a high standard of preliminary education should be required of all intending to study medicine. At that time many of the medical colleges held terms of only *fourteen weeks* in duration, and persons were graduated after an attendance upon a single course of lectures; a variable period of "practice" being accepted as the equivalent of a course of lectures. Even then there were persons who opposed organization, who considered themselves too great to be dictated to, and who felt that their privileges must not be restricted. Then, as now, the head and front of the opposition clique was in New York. Then the opposition was centered upon the matter of membership, now it is upon an alleged Code difference; but during the entire period there has been opposition, and the opposition party have made use of whatever pretext happened to be uppermost; and all the time there has been an assumption of superiority, an alleged upper crust of medical wisdom that looked upon the banding together of the rank and file of the profession as an invasion of the inherited rights of the anointed. The descendants of the ancient objectors have succeeded of late in making it perfectly clear in their own minds at least, that they alone of the medical men of this country, have the energy, the staid ability and the medical genius of America; that all else is meretricious and beneath notice, that to them alone has accrued that truly sanctified beatitude that ensures them a place in the niche of fame, where no plain Association man, however well-meaning, need ever hope to attain.

For the benefit of these *unco guid* we have only to say, that the old Association has come to stay; that her members are proud of her past and they mean to see to it that her future is no less glorious, that they have but one ambition, and that is to see the Association become the most useful and the greatest on earth. Although they prefer peace, they mean to fight when they are attacked, and they never intend to stop working for the Association until its membership shall pass the limit of twenty thousand men.

Why work for the Association? Why simply this, enlarged membership means unlimited resources, plenty of money means a good building, owned by the Association, where the members may have free access to their library, either in

person or by their representative, and where their JOURNAL may be published. And such a Journal! With money, a correspondent may be furnished for every clinical center of the world, and the clinical gleanings of the universe, may be laid before the owners of THE JOURNAL every week. It could have no rival, for no private publication could have such sustained resources or such hearty and enthusiastic support. Investigations under the auspices of the Association could again be undertaken, and all the power of increased wealth would be manifested by the Association. It could dictate terms, to every person or organized body that opposed the march of medical progress, and itself shape the medical matters of this Continent.

Is there not reason enough why every member of this Association should go earnestly to work? Should he not benefit himself? Is it not clear why the descendants of the ancient enemies of the Association should desire to crush it now?

But there is one thing the Association must steer clear of, if it hopes for success; that is, it must put itself squarely against the office-seeking mania that developed itself at Cincinnati, established headquarters and made its adherents ridiculous even in the eyes of their friends; fortunately the Nominating Committee put a quietus on that business, as they may usually be depended on to do when occasion offers, but beware of that device of the enemy, the "Executive Council." Do not supplant the Nominating Committee. Let us support the freedom of its members, and not strangle their individuality by a resort to a star chamber plan of conducting the business of the Association. Let the members be free as the air, and allowed to vote for what they please concerning the working of our Association, and all will be well; suppress their present freedom, exalt a clique, they will keep in control, and the downfall of the Association will surely follow.

The foregoing are the views which actuate us in urging the present membership to stir themselves in securing new members by application. The need of new members is apparent, why then should not each member go quietly to work and bring in one new one? The work is easy, will it be done?

THE next meeting of the Association will be held at Newport, Rhode Island, June, 25, 1889.

EDITORIAL NOTES.

TYPHOID FEVER AT LAKE VIEW.—The City of Lake View, Cook County, Illinois, has an epidemic of typhoid fever. It is alleged that there are now nearly fifty cases of the disease within the corporate limits of Lake View. For a long time it has been charged, that the water supply of Lake View was contaminated with sewage, and many families have been buying Waukesha and other spring waters, and it is said to be a fact that the typhoid has only attacked families using the public water supply.

THE annual report of the Health Officer of Brooklyn shows a greater mortality from diphtheria alone, than have died from yellow fever in Florida during the same period. The report shows that 984 deaths occurred in Brooklyn from diphtheria in 1888.

STATE MEDICAL SOCIETIES.—Secretaries of State Medical Societies are respectfully requested to send their names and addresses to the Editor of THE JOURNAL as early as possible.

ANTIPODAL HOSPITAL REFORM.—The proposed new regulations of the Sydney Hospital provide for the appointment of a Medical Superintendent at £500 per annum with quarters and rations, and the reduction of the annual salaries of "resident medical officers" from £250 to £100.

PRIEST AND PHYSICIAN DIE TOGETHER.—A special dispatch from Springfield, Mass., to the New York *Commercial Advertiser* says: Dr. William Breck, a distinguished physician, died suddenly while assisting at the last moments of Vicar-General Healy, of the Roman Catholic diocese of the same city. Dr. Breck was senior surgeon of the Springfield Hospital, an ex-President of the Hampden Medical Society, and a member of the Massachusetts Medical Society. He was also for many years surgeon of the Boston and Albany and New York, New Haven and Hartford Railroads. Dr. Breck was possessed of rare natural gifts for his profession and was especially skilled in surgery.

THE MEDICINISCHE MONATSSCHRIFT.—A. Seibert, of New York, has assumed editorial control of the *Medicinische Monatsschrift*, published in that city. In the circular announcing the change a reason for issuing a medical journal in German on this side of the water is given in the statement

that "it is planned to have a complete number of abstracts from the latest medical literature of America and of Germany in each edition, thus enabling physicians here to get a glance at the latest German publications, as well as enabling German medical writers to at once come in contact with American medical productions." These are very excellent objects, but would they not be as well subserved by issue in the English language or publication in Berlin?

NEW CHAIR AT THE PHILADELPHIA POLYCLINIC.—We are informed by Dr. H. Augustus Miller, chairman of committee, that S. Weir Mitchell, M.D., LL.D., has been elected Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine, an additional chair upon that subject being created.

ASSOCIATION NEWS.—President Dawson is informed that the work of the Section on Surgery, of which Dr. Dandridge is President, is already far advanced. A prominent topic in the Section work so far as arranged is the discussion of the question, "Lithotomy or Lithotripsy?"

INSECT INSTINCT AND ADULTERATION.—Bees are said by the *Lancet* to be unerring connoisseurs of saccharin substances. To the human palate cane sugar, beet root sugar and saccharin, are pretty much alike, but bees will have nothing to do with the last two. They are partial to glycerine, but discriminate against impure samples. What is wanted in the country is an insect that will instruct inmates of hotels and boarding houses in the mysteries of the butter-dish.

CONVALESCENCE OF SIR WILLIAM GULL, AND SIR WILLIAM JENNER.—The *Lancet* states, under date of the 12th inst. that Sir William Jenner and Sir William Gull are improving in health. The former expected to be able to leave London at the end of the month for a few weeks' rest, and the latter was just able to leave his room.

DR. VON PETTENKOFER KNIGHTED.—Dr. Max von Pettenkofer, professor of hygiene and state medicine in the University of Munich, has been made Knight of the Order of the Crown of Italy, a similar honor to that conferred upon George M. Pullman of palace-car fame.

OBITUARY.

IRA RUSSELL, M.D., of Winchenden, Mass., died at his residence, Dec. 19, 1888, æt. 74. He was born at Rindge, N. H., graduated at Dartmouth College, 1841, and received his medical degree from the University of New York, 1844. He was surgeon in the 11th Mass. Regulars, volunteered in the war, at the close was promoted. Dr. Russell was a member of the Massachusetts Medical Society and of the American Medical Association, 1858.

C. N. CAMPBELL, M.D., of Dutchess County, N. Y., died Dec. 21, 1888. He was a graduate of the University of New York, 1848. He was a leading physician and had held many offices of trust in the county. Was surgeon of the 115th N. Y. Volunteers in the late war.

THOMAS J. EDWARDS, M.D., of Baltimore, Md., died at his residence of heart disease, Dec. 15, 1888, æt. 48. He was a native of Northumberland County; although an M.D. he devoted himself to teaching a Grammar School.

JAMES A. EMMERTON, M.D., of Salem, Mass., died Jan. 2, 1889, æt. 54. He was a graduate of Harvard. Served as a surgeon in the late war.

THOMAS BRAIN GUNNING, D.S., of New York, died at his residence on Staten Island, N. Y., Jan. 9, 1889. He was called to Washington in April, 1865, to attend the injury to Secretary W. H. Seward, and was a writer of ability in his specialty.

DAVID J. MCKIBBEN, M.D., of Ashland, Schuylkill County, Pa., died Dec. 19, 1888, æt. 65. He was a graduate of the University of Pennsylvania. He served as a surgeon through the war and was promoted Lieutenant-Colonel for meritorious services.

CHARLES L. MINSTER, M.D., of Philadelphia, Pa., died Dec. 14, 1888, at his residence. He was a graduate of the Pennsylvania Medical College under the régime of Professor McClellan.

JOHN J. MORAN, M.D., of Falls Church, Va., died in the city of Washington, Dec. 15, 1888. While a resident of Baltimore, Md., he had the melancholy duty of attending Edgar Allen Poe in his last illness. The Doctor became widely known for his defense of the Poet, and maintained that he did not die of alcoholism.

JAMES SCOTT, of Lebanon, Ohio, died at his residence, Dec. 17, 1888, æt. 73. He was a native of Washington County, Pa. He may not have practiced medicine, but won fame as the author of the Scott Liquor Law of Ohio, and was spoken of as a doctor.

ALFREDRICK SMITH, formerly of Little Falls, N. Y., died in the city of New York, Dec. 14, 1888, æt. 88. He was a native of Saybrook, Conn. He had long since retired from practice.

EDWIN M. SNOW, M.D., of Providence, R. I., died of heart disease, at his residence, Dec. 24, 1888. He was born in Pomfret, Vt., in 1820. Graduated as M.D., at the College of Physicians and Surgeons, New York, 1844. For nearly thirty years he was the able superintendent of the Health Department and City Registrar of Providence.

PASSED-ASSISTANT-SURGEON W. G. G. WILSON, U. S. Navy, died at Philadelphia Navy Yard, Jan. 23, 1889.

JOSEPH L. BODINE, M.D., of Trenton, N. J., died of heart-failure, æt. 49, Jan. 2, 1889.

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, December 6, 1888.

THE PRESIDENT, T. M. DRYSDALE, M.D.,
IN THE CHAIR.

(Continued from p. 133.)

DR. J. M. BALDY said that he had never used electricity in his gynecological practice for the simple reason that he had not felt competent to get the best results, not being an electrician, nor had his observation of the work of others made him desirous of doing so. He had, however, done still better—he had put himself in the way of observing the work of experts in this branch of practice. What he saw at Apostoli's clinic was entirely negative.

DR. T. M. DRYSDALE had not intended to take part in the discussion, but he could not permit what Dr. Baldy had said to go unchallenged. He had had some experience in this matter, having been working at it pretty steadily for the past three years, and he intended shortly to give his results to the Society. He thought that the great mistake in regard to electricity was that its advocates have claimed too much for it, but it must be admitted that many of these claims had been

proven and its positive value established by the results of practice. It is certain, for instance, that in some forms of hemorrhage from the uterus there is no other agent that will take its place. He had seen it cure metrorrhagia when ergot, erigeron, local applications of iodine and, in fact, everything else has failed. Again, he had seen large plastic exudations in the pelvis entirely disappear under the use of currents of electricity. He had used it in only four conditions: pain, hemorrhage, plastic exudations and uterine fibroids, and experience had taught him that there was a good deal in the manner of application of this powerful agent. He had not adopted all of the methods of Apostoli; for instance, he never punctured a uterine fibroid, believing that the practice is a perilous one and entirely unnecessary, for without it he had met with at least equal success with those who used it. In his hands it had proven decidedly successful in the treatment of uterine fibroids, resulting, in many cases, not merely in arresting their growth and checking hemorrhage, but in their entire cure. One of these cases, in which there was a complete disappearance of a uterine fibroid, was reported by Professor Skene at the meeting of the Gynecological Society at Washington. Six years ago a patient of his removed from Brooklyn to Philadelphia and was sent by him to the speaker. She was suffering from excessive hemorrhage, the result of a submucous fibroid about the size of a small cocoa-nut, which he removed by enucleation. She afterwards returned to Brooklyn and had no further trouble until two years ago, when she commenced bleeding again. After being treated by several physicians she came to him. On examination he found a soft, interstitial fibroid tumor about 3 inches in diameter. She could not remain in Philadelphia at the time, but in three months she returned, when the tumor was found to be growing rapidly, while she was greatly reduced by repeated hemorrhages. In October, 1887, the use of electricity was commenced, and in April, 1888, she returned to Brooklyn and was examined by Prof. Skene, who found the tumor had entirely disappeared. He could give many other instances, but should reserve them for a future paper.

DR. JOHN B. DEEVER asked whether the *rationalité* of the gynecological treatment is not the same as in that of urethral strictures. In his hands this had proved utterly useless.

DR. JOSEPH PRICE thought it would be just as well if every one would give their bad results as well as good.

DR. H. A. KELLY said he had seen some good results and felt that in a limited number of cases we shall be successful.

DR. B. F. BAER said he was glad to hear Dr. Kelly, as he supported the position which he had taken before the Society at the last meeting.

Many of these cases are benefited and practically cured by this treatment, used with other remedies. He did not know the meaning of electrolysis if it was not the destruction of organized tissue by resolving it into its elements, and to get this action a higher power than one would be warranted in using must be applied.

DR. M. PRICE said that he had only found two forms of fixation of the uterus. One is non-inflammatory, the other bound down by inflammatory bands. It was absolutely useless to tell him that a uterus bound down by adhesions could be replaced. It would be as easy to believe that adherent fingers and toes, resulting from a burn or scald, could be relieved, as that electricity applied to the pelvis could release adhesions of the uterus, when it is all that we can do at times to tear them loose with the finger. In regard to massage, it is absolutely absurd to talk of any patient submitting, who has any decency, to a man fingering her vagina, by the week. If there were inflammatory trouble it would do mischief. He had a case where electricity had been used and where all sorts of applications had been made. He was positive that there was pus. The temperature was 103° .

DR. GOODELL could not allow the remarks which Dr. Price had just made to go unchallenged. He believed that massage of the fixed womb could be employed with propriety and without the indecency alleged by Dr. Price. He had, with Dr. Taylor, treated a case in which a pelvic inflammation had been set up by treatment at the hands of an irregular practitioner. She almost died, but finally recovered, with the roof of her pelvis feeling like a hard board. The womb was enlarged and absolutely immovable. She had menorrhagia and constant pain. He began treatment by application of a mixture of carbolic acid, iodine and chloral and by using uterine massage. In doing this one simply passes one or two fingers behind the womb and catching it from above with the other hand, rocks it from side to side and backwards and forwards, stretching the adhesions and separating them if possible. Dr. Taylor administered electricity locally. To-day she is in rude health. He had closely watched the growth of electricity and had always felt that there were remedial virtues in the agent which would be developed. Yet while he believed that we could get a great deal of good from it, he did not believe that it would cure pus tubes or suppurating ovaries, neither does he believe it will remove organized adhesions, although he felt sure that it would cause the absorption of recently deposited lymph which is not organized. He knew from unquestionable facts that in fibroid tumors in which hemorrhage is a prominent symptom, electricity an admirable agent, but he was not ready to accept the statement that it will reduce the size of fibroid tumors either permanently or without subjecting the patient to more risk than the opera-

tion of oöphorectomy. He knew of one of his friends who has had two deaths, another has had one if not more deaths. A third applied electricity to the womb of a lady in his office and she died of inflammation a few days later. A fourth friend met with the same disaster, although he is an authority on electricity. On the other hand he knew the wife of a physician who had been treated in various ways, without benefit, for hemorrhage coming from a fibroid tumor. The curette, however, had not been used. Three applications of electricity cured her. Her husband assured him that he had two or three other patients cured in the same way of hemorrhage. He thinks there is a great future before electricity, especially in those cases in which operative procedures should not be resorted to, and in cases of recent pelvic exudation.

DR. M. PRICE said that Dr. Goodell started out with a very pretty case indeed. The pelvic abscess was evacuated and all that was risking her life was removed. Unless there was multiple abscess the woman was safe after this discharge.

DR. J. M. BALDY did not mean to deny that electricity would relieve pain and hemorrhage in vascular tumors. Electricity is, however, a dangerous remedy used indiscriminately and in large doses, where we do not know the exact condition of affairs.

DR. J. PRICE said that, in regard to the mortality, Dr. Chadwick, of Boston, says that he has had two fatal cases out of eighteen and that he has given up its use. With thirty-one hysterectomies in Tait's experience, and no deaths, and thirty-eight in Keith's, with three deaths, we see that the mortality following electricity has been greater than that of hysterectomy in the hands of such men as Tait, Keith, Bantock, Thornton and others. He had a case similar to the one of Dr. Goodell's. The pus was evacuated. He did not attempt to release the fixed uterus. The woman is now pregnant.

DR. TAYLOR said that his experience had been chiefly with pelvic deposits. He had used electricity very little in antifixion. In these cases rapid dilatation has relieved the trouble in a shorter time. In menorrhagia the curette answers the purpose sufficiently well, and in seventy per cent. of the cases it relieved the trouble. In regard to gonorrhœa, he would simply state that he did not deny that it may be a cause of pelvic trouble. He was very glad to hear of Dr. Drysdale's success in the treatment of fibroids, but he did not think we could conceive of an electrolytic action sufficiently extensive to cause breaking down of a fibroid unless there was an electro-puncture.

DR. T. H. BRADFORD said that if Dr. Baldy had seen the cases to which he had referred, at a later period he would have found that they had been benefited.

Suffolk District Medical Society.

SURGICAL SECTION.

Stated Meeting, January 2, 1888

PRESIDENT, EDWARD H. BRADFORD, M.D., IN THE CHAIR.

DRS. G. F. GRANT, D.D.S., and H. A. BAKER, D.D.S., presented a paper on

THE TREATMENT OF CLEFT PALATE,

who referred to the history of the use of artificial appliances in the treatment of this deformity, and exhibited the apparatus and patients wearing it.

DRS. Charles B. Porter and J. Collins Warren opened the discussion in reference to the value of surgical interference.

DR. G. F. GRANT referred to twenty-one years experience in the treatment of cleft palate by mechanical appliances, beginning just after the appearance of a paper by William Suersen, of Berlin, in 1867.

The results of surgical operation are unsuccessful because, 1, under the most favorable conditions there is no union of the divided palate; 2, there is not so much improvement in speech as was hoped; 3, there is an increased difficulty in the adjustment of, and mechanical appliances afterward.

In 1873 and 1874, this subject was occupying the attention of Drs. Bigelow, Warren, Hodges, and Cabot. At this time Dr. Grant had his first success with a mechanical appliance, in the case of a patient 14 years of age, in whom Dr. Warren advised no operation, but an artificial plate. After its application there was a noticeable improvement in speech directly, and there was a gradual increased improvement for a year, when it was very marked. For the last ten years, the patient has been a teacher in the public schools of one of the large towns in Massachusetts.

Since 1871, Dr. Grant has treated 115 cases of congenital fissure with the result justifying the conclusion, that there is no reasonable doubt as to the success of the appliance. After the use of an appliance the whole system of speech is so changed that it is always retained, even on removal of the appliance, and thus the patient can form his words better than he did before he had the appliance introduced.

DR. GRANT thinks that the importance of the constrictor laryngeus muscle in the treatment of these cases is overestimated. According to his experience, the appliance can be adjusted with success as early as the seventh year of age. He emphasized the importance of a proper operation on the hare-lip, which generally accompanies the defect of the palate, so as to secure the greatest mobility, since a short and inflexible lip-wire interferes with the articulation and the obtaining a cast of the condition.

In illustration, Dr. Grant exhibited a patient for whom he had adjusted an appliance. His replies to questions from the members of the Society, as well as his reading both with and without the appliance, testified to the great improvement in his speech.

DR. H. A. BAKER said that the first mechanical appliance adjusted and worn successfully in a case of fissure of the palate, was that devised and manufactured in 1841 by Dr. Stearns, a physician, for himself. His apparatus was very complicated and had many springs. Moreover, he did not select a permanent material. Soft vulcanized rubber which he used has a life of only $2\frac{1}{2}$ or 3 months to a year.

In 1860 Dr. Norman W. Kingsley simplified Stearns' apparatus and used metal moulds instead of wooden in its construction, thus securing a smoother result with a better finish.

In 1867 William Suersen, of Berlin, used permanent materials of hard rubber, and his obdurator had a posterior wing going to the posterior pharyngeal wall, which was closed by the muscles.

In 1881, Dr. Baker made his first successful appliance, and since then he has had upwards of a hundred cases. This apparatus was made of hard rubber and had hinges to aid the levator muscles in bringing it up to the posterior pharyngeal wall. The patient was 12 years of age, and the operation of staphylorrhaphy had been performed unsuccessfully. The plate was made eight years ago, and some improvement in speech was noticed at once, and after training as to the proper way of using the lips and tongue there was much more and faster improvement.

In illustration Dr. Baker exhibited several plaster models with the appliances in position, as well as two patients, who showed a marked improvement in speech when wearing the appliance.

PROFESSOR BUTTERFIELD stated that he had been a teacher of persons afflicted with vocal defects for the last eighteen years, and that in connection with the various phases of stammering, stuttering, etc., he was brought into association with persons with defective palates. After the adjustment of a plate, some people will develop the best they can do instinctively and intuitively, while others will not adapt themselves to its use for a long time. A person with a musical mind will at once seize upon the vibrations of the voice and adapt them intuitively. The Professor believes there exists a condition, which may be called sound-deafness as compared to the term color-blindness, and thus it is that people learn so very differently. He then referred to Bell's visible speech, which consists of a system of phonic symbols, by means of which, one may learn to speak correctly, even unknown languages; he himself had been tested in thirty different languages. When a person with fissure of the pal-

ate has a plate introduced, he must learn what the ear never found in his own voice. It is only necessary to learn the proper position of the organs. It is much more difficult to learn to get a good quality of voice than to articulate, for this is dependent on the relative position of the cavities. It is most difficult to wake up a response in the anterior cavities of the nares. Unity of sound is due to vibrations in all of the cavities in unity.

DR. CHARLES B. PORTER said that he came forward, not as an opponent of the views that had been advanced, but because he believed that the time has come to review the subject of staphylorrhaphy, which now is so rarely performed. He wished to consider it from several standpoints.

1. Is the operation feasible and in what cases? Trelat says that the operation should be performed in any case unless the extent of the fissure is too great, unless there has been previous operation, or unless the parents object.

2. At what age? Many authorities were quoted, some giving the age as early as 14 months and others not until 16 years. Dr. Porter's own idea would be at the age when the child has sufficient teeth to support a diaphragm to keep the pressure of the tongue away from the wound.

3. The method of operation. This would be comparatively simple, *e. g.*, refreshing the edges; lifting away from the bone the mucous membrane with the periosteum by means of a periosteum elevator; and putting in stitches every quarter of an inch. The sutures may be of silk or of silver wire. Lateral incisions parallel to the line of union will relieve tension. A diaphragm should be inserted to protect the stitches from the tongue.

4. Subsequent training in the formation of the voice is the most important of all things and without it there can be no success.

Dr. Porter has operated upon two cases: one at 14 months which did well until about the sixth day, when the mother of the child gave it a hard crust of bread and the stitches were pulled out. The other case was aged 16 years. Nine sutures were introduced and these were protected by a gutta-percha diaphragm. This case did well and was exhibited. There was a great improvement in speech.

DR. J. COLLINS WARREN said that no operations for staphylorrhaphy were done previous to this century. In the early part of the century Rue began to do the operation. Later it was done by Dr. John Warren, Dr. Bigelow, Dr. Gay, Dr. Mason Warren and others. Dr. Mason Warren (the speaker's father) did a great many operations, having modified the method. The difficulty was in the retention of the soft parts, owing to the peculiar obliquity of the bony parts. Dr. Warren seized the uvula with a pair of long forceps and drew it firmly across the fissure, when the posterior pillars became tense. Then with a strong

pair of curved scissors he divided *all* of the tense tissues, whether muscles or not, after which it hung loose, and the same thing was then done on the other side. With the hard palate the difficulty was to bring the surfaces together. The edges were pared with a pointed, double-edge knife, and the mucous membrane was separated almost to the alveola process, after which it was united by sutures. Dr. Warren did about 100 operations. Later he did not attempt to unite the entire length of the fissure, believing that the chief essential is the restoration of the arch with enough soft palate for a valve.

Dr. Warren showed the case of instruments with which Dr. Mason Warren had performed all of his operations, upwards of 100 in number. The sutures he used were silk, which had been soaked in the compound tincture of benzoin, which was claimed by some to have antiseptic properties, but the chief advantage was that the knot would not slip.

DRS. EDWARD REYNOLDS and R. W. LOVETT reported

REMOVAL OF NASAL OBSTRUCTION. RESULTS IN 112 CASES.

DR. R. W. LOVETT said that the cases to be reported were the ordinary patients that presented themselves for treatment at the Dispensary during the three months' service of Dr. Reynolds and himself. Three conditions were chiefly observed:

- a. Chronic folliculitis.
- b. Congested mucous membrane with abundant secretion.
- c. A dry, shining mucous membrane.

In general the treatment employed involved the destruction of the mucous membrane of the turbinated bones by canterization by means of chromic acid. In 75 cases this treatment was employed.

In 33 check cases, in which the conditions were as nearly identical as possible, the ordinary treatment by douches, etc., was recommended.

In 5 cases there were exostoses or deviations of the septum.

Of the 75 cases that were cauterized with chromic acid, 15 were cured; 38 were much improved; 2 were not benefited, as was ascertained after three months by mailing addressed postal cards with questions to be answered and returned. The remainder were not heard from.

Sixteen of the cases were cauterized but once, and the remainder, 21, three or four times according to the amount of hypertrophy. Only one nostril was treated at a time, and the second application, if necessary, was delayed about a week. Of the 33 check cases, which had conservative treatment, none received any benefit, as is usually the case with this class of patients. But two of these cases were burned, after about three months, with a cure for result. The exostoses were removed.

DR. EDWARD REYNOLDS said that the mucous membrane of the nose is for the purpose of tempering the air before it reaches the lungs. No matter what is the condition of the external air, it enters the lungs at a temperature of about 30° C. (86° F.), and saturated with moisture.

The turbinated bones divide the anterior nares into three main compartments, which are normally narrow spaces, and the mucous membrane which surrounds these spaces, is so nicely supplied with blood-vessels that it is almost an erectile tissue. A series of acute attacks may make a chronic swelling of the mucous membrane, and this may cause supplementary mouth-breathing which, in the later stages, may be substituted by mouth-breathing itself.

The operation, which was done at the Dispensary in the cases to which reference has been made, is simple, and but few instruments are necessary. A solution of cocaine (4 per cent.) is first applied to the nostril by means of a hand-spray, and then deliquesced crystals of chromic acid are applied to the whole of the lower turbinated bone (unless it is so large that it is thought wise to do only the inner half the first time), by means of cotton or an applicator made of a flattened piece of copper wire. If examined with a nasal speculum the eschar is at once seen.

If the other nostril needs attention the application is delayed from three days to a week, and if only one is affected we waited till the eschar came away before a second application, which was then made if necessary. The eschar caused by chromic acid is very superficial, and this is the great advantage of its use for this purpose. After the operation it is difficult or impossible to detect any scar.

DR. VINCENT Y. BOWDITCH said that he had used the chromic acid in treatment of this class of cases for over a year in his office practice, and that he found it of great advantage in clearing obstructions from the nose, which is the true respiratory organ. There are many enthusiasts who remove nasal hypertrophies for everything, and thus weaken the cause. Some even claim that asthma should be treated in this way.

DR. THOMAS A. DE BLOIS said that the nasal hypertrophies appear on both the anterior and the posterior ends of the turbinated bones. Those which are on the anterior ends are the ones which are benefited by the chromic acid treatment. In its application the doctor prefers to use a round rather than a flat probe, and he is accustomed to cauterize in lines only, by drawing the end of the probe over the surface where it is desired, and in this way it is regulated, so that the application can be stopped when enough has been destroyed.

The hypertrophies in the posterior nares are apt to be large, puffy masses, which may be removed entire with a snare, after which they shrink very much, those which have appeared as large as the thumb shrinking to the size of a pea.

DR. HENRY L. MORSE said that many of the cases which had been reported were sent to the throat department from the ear department of the Dispensary, because he believed that a free opening through the nose is very important in treatment of diseases of the ear. In the case of children nasal obstruction will increase the ingrowing of the drum of the ear, and the nose must be attended to, or else little can be gained for the ear. He has frequently observed that the Politzer douche has cleared the nose when the most thorough blowing would not succeed.

DR. GEORGE A. LELAND said that he had obtained good results from this method of treatment. There is a certain normal erectility to the mucous membrane of the nose, and hence it is not best to burn too much, lest the condition of dry catarrh follow. Dr. Bosworth, of New York, applies the chromic acid by fusing a bead on the end of a silver wire. Dr. Leland has found that the reduction of the mucous membrane of the turbinated bones has cured the condition known as "hay fever." He once saw a patient who had suffered for twenty-three successive years. Not having at hand the chromic acid, he curetted the mucous membrane from the turbinated bone. It was followed by much bleeding, but there was no "hay fever" that year nor since, and it was done four years ago. The inferior passage has been called a continuation of the Eustachian tube.

DR. REYNOLDS showed a number of skulls that had been cut in such a way as to illustrate the swelling of the mucous membrane, the exostoses, and the deviations of the septum.

DR. PORTER exhibited a beautiful specimen of surgical kidney following a stricture of ten years' duration. The urinary apparatus had been dissected out entire, and showed the stricture of the urethra, the bladder with its thickened and hemorrhagic mucous membrane, the dilated ureters, and the enlarged kidneys, consisting chiefly of dilated pelvis and calices, the cortices being nearly all destroyed.

report he reasserts his claim to have discovered the microbe of the disease in the intestinal canal. The occasion was an interesting one at the Academy, and the paper was listened to with the closest attention, but, strange to say, there was not, with the exception of the President, Dr. A. Jacobi, a single pathologist of note present, and there was not a word of discussion upon it.

Dr. Gibier stated that when he reached Jacksonville the epidemic had already begun to diminish, but, through the courtesy of Surgeon-General Hamilton and Dr. Porter, Chief of the Bureau of Medical Relief, he was enabled to examine as thoroughly as possible several of the subjects there.

Before presenting the details of the cases he observed he said that he thought it well to take up the question whether the recent outbreak in Florida was veritable yellow fever or not, since the relatively small number of deaths and the fact there were proportionally more cases among the blacks than the whites had caused some physicians to entertain doubts in regard to its true nature. As to the prevalence of the disease among the blacks, yellow fever had been observed among them, as well as the white population, in previous epidemics in the United States. Moreover, in Jacksonville most of the white families left the town a few days after the outbreak of the epidemic, leaving few but negroes remaining. Still, it was remarked that as a general rule the symptoms were less grave and the mortality less considerable among the latter than among the whites. He believed it was necessary, therefore, to examine, *first*, whether it was really yellow fever that had prevailed at Jacksonville; *second*, in case of a negative reply, whether it was a new disease; *third*, whether all the cases registered were genuine (in other words, if there were not existing at that time several kinds of fevers, such as dengue, bilious or malarial fevers); and, *fourth*, whether yellow fever might not have assumed, at least in a certain proportion of cases, a kind of typhoid character, owing to the malarial nature of the country.

In answer he was able to say that many cases of genuine yellow fever were observed, and that he personally saw some cases which were absolutely characteristic, judged both by the symptoms and anatomico-pathological lesions; but at the same time he thought that it was not irrational to admit that a large number of cases of bilious and malarial fevers existed simultaneously. In illustration, he referred to the case of a negro upon whom he made an autopsy at St. Luke's Hospital, Jacksonville, where the bowels were normal, the liver black, instead of presenting the characteristic color, and the spleen hypertrophied; so that whatever else the patient may have had, he certainly did not have yellow fever. At the temporary hospital Dr. Solace Mitchell showed him the ther-

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

Does the Yellow Fever Germ Disappear?—Alleged Malarial Complication of the Florida Epidemic—Gibier's Report to the New York Academy of Medicine—Unusual Methods of Acquiring Syphilis—Hospital Sunday Collections—Officers Elected.

Dr. Paul Gibier has just presented the report of his experimental researches in yellow fever, made recently in Florida, under the direction of the French Government, to the New York Academy of Medicine, and it is to be noticed that in this

mometric charts of his patients, and it was noticeable from the intermittent form assumed by the fever, that the paludial element had stamped, as it were, its mark upon it, and made it assume one of those hybrid forms to which Prof. Verneuil, of Paris, had called attention. It was likely, he thought, that the cases in which the diagnosis was doubtful were found, not in the center of the town, but in the suburbs and on the opposite bank of the St. John's River (South Jacksonville) where the sanitary conditions are highly favorable to the fostering of malarial fermentations. The case of the negro referred to occurred across the river, and it was, as he believed, of the nature of pernicious fever.

As to his bacterial observations, Dr. Gibier said that while the cases were few in number the results entirely confirmed the more numerous ones made by him in Havana during 1877 and 1878. Having given a description of his technique, a special feature of which is the use of a curette which is plunged into the parenchyma of the viscera to be examined, he proceeded to give an outline of the observations which he made on individual cases. The specimens taken from the first two became altered after death, owing to a delay of eight days in receiving his instruments. They presented, however, the characteristic lesions of yellow fever. In the third case the intestines did not contain the bacillus which he stated that he had found in such large quantity in cases at Havana; and, commenting on this circumstance, he said that if this bacillus was really the cause of yellow fever, we must admit that under influences as yet unknown it might disappear after having produced the special intoxication; the same thing being observed to a large extent in the case of the comma bacillus of Koch in Asiatic cholera. As in his former observations, the blood did not contain any microbe, and he added that never in a single instance did the microscopical examination of the blood, either in its fresh state or in various preparations, ever show anything abnormal.

As regards the different microorganisms which developed in the cultures of the viscera, the number of the colonies was so small, and their composition so various, he said it had to be admitted that an accidental infection took place during the manipulations; but with the cultures of solid media there was no reason to fear the same errors as with the liquids. Although he admitted the possibility of the introduction of microorganisms into the viscera, owing to the alterations of the mucous membrane, he considered the cultures of the liver, spleen and kidneys in this instance as having remained sterile.

In case No. 4 he considered it very doubtful whether the patient died of yellow fever, and it is unnecessary here to detail the description of the autopsy and the results of his cultures. In the

fifth case, a negro woman, the stomach and bowels contained a large quantity of black liquid, acid in the stomach, but decidedly alkaline in the small intestines, and neutral in the large. The kidneys, spleen and liver contained a certain number of diplococci, the colonies of which spread quickly over the surface of the agar-agar, like a transparent cloud, and discolored the gelatine very rapidly. This was the first time that Dr. Gibier had found this microorganism, and it was also the first time that he ever found a microbe in the parenchyma of subjects dead of yellow fever; but in this connection he called attention to the fact that the autopsy was made eight hours after death, in a surrounding temperature relatively high, and while the interior of the subject was still warm: all conditions very favorable to the growth of the bacteria of decomposition. Some particles of the contents of the bowels, taken from different portions of the track were diluted with sterilized water, and with them he made cultures on gelatine in his matrasses. Notwithstanding the large dilution, the colonies were so numerous that after twenty hours the gelatine was entirely dissolved in the first two matrasses. In the third (fourth dilution), in 106 colonies he counted 98 which liquefied the gelatine. The important point to which he desired to call especial attention, was the fact that all these liquefying colonies were formed by the microbe which he had isolated at Havana.

In the sixth case observed, a typical one of yellow fever in a white male, æt. 40 years, the cultures of the blood and the renal, splenic and hepatic pulps remained absolutely sterile. Cultures of the urine contained some micrococci; but the patient had been catheterized several times during his illness. The cultures of the contents of the bowels presented only common microbes. While this was unquestionably a case of yellow fever, the conclusion he reached was that the pathogenic bacilli had disappeared from the intestines by the time death supervened.

Case No. 7 was the one previously referred to, in which the patient was believed to have died of yellow fever. The negro lived in the swampy locality of South Jacksonville, and death occurred only twenty-four hours after the initial chill, which was very violent and followed by a very high fever. In this case while the cultures of the blood, kidneys, spleen and liver remained sterile, those of the intestinal contents were strewn with colonies almost exclusively composed of large and long bacilli, which did not dissolve the gelatine. Dr. Gibier remarked that he was unable at present to say what was the significance of these long bacilli, which grow at the surface of the plates, with the aspect of a light pellicle more or less irregular, and in the interior of the medium of culture were regularly spheroidal. He reported the fact only, with the hope

that it might perhaps be of service in guiding some further researches.

He considered it a remarkable circumstance that out of the three undoubted cases of yellow fever in the above series, it was the one in which death was most rapid (occurring after four days), that contained the black and characteristic matter in the intestines and presented in such an extraordinary abundance, and almost exclusively, the same bacillus which he had seen in several yellow fever subjects in Havana, and which Dr. George Sternberg also found in these cases of yellow fever in which he looked for it. The cultures of this bacillus, he said, exhaled an odor quite similar to that which he had remarked several times in black vomit. Furthermore, biological characteristics of the microbe were entirely in accord with the physiology of yellow fever itself, and in certain conditions, as previously shown by him, it blackened bodies in contact with it to such an extent that some of the liquid cultures certainly had the appearance of black vomit. He did not claim, however, that this last character, which did not always appear, was pathognomonic.

On the whole, he thought that he was correct in saying that the presumption that this bacillus was the cause of yellow fever was tending to become a certainty. The fact that in the case in which the autopsy was made early after death, both at Havana and Jacksonville, the blood, liver, spleen and kidneys, had been constantly found free from microbes, added support, he claimed, to the theory which he had advocated, that yellow fever is an intestinal infection, which must be treated from the very beginning with evacuants and disinfectants such as bichloride of mercury, naphthaline and tannic acid.

Two objections have to be answered, viz.: 1. How is it that the microbe supposed to be pathognomonic is not found in every case of yellow fever after death; and if it has disappeared, how shall we explain the persistence and the aggravation of the accidents? 2. If yellow fever is a disease the germ of which grows exclusively in the intestine, how shall we explain the albuminuria present?

In reply he said that it was known that when a microorganism had saturated any medium, its growth ceased, and that if another microbe was introduced and grew in the medium transformed in that way, the first often disappeared. This would explain the possibility of the disappearance at any moment of the microbe of yellow fever. He proposed at the first opportunity that he could get to analyze the dejections of several patients from the first day to the last, and he said he should not be surprised to find his microbe only in the first period of the disease, at least in a certain number of the cases. As to the persistence and eventual aggravation of the accidents, they very likely depended on the more or less

grave importance of the lesions. The latter were due to venomous products, ptomaines, secreted by the microbes and absorbed by the blood-vessels of the intestine, and more especially by the radicles of the vena porta. We know that the cultures showed the absence of bacteria in the liver. This gland, into which the blood of the vena porta first flowed, underwent, nevertheless, a fatty degeneration, analogous to that observed in certain cases of poisoning *per ingesta*. The spleen, on the contrary, was of normal appearance, unless there was a malarial complication or secondary infection. If the kidneys were congested and allowed the escape of albumen, it did not follow that they were directly attacked by the bacteria. In typhoid fever, for instance, which might be considered as an infection primarily intestinal, albuminuria was observed without there being found in the urine, at least in the beginning, the specific bacillus of the disease. Certain kinds of poisons also produced albuminuria, such as lead, phosphorus, cantharides, etc.

In conclusion, he stated that the experiments which he had made on his bacillus had already given the explanation of the fact that yellow fever remains endemically on the seashore of the hot countries, and not in the interior regions; and also of the fact that an infected vessel may hibernate in glacial regions without losing the ability to communicate yellow fever when she returns to a hot climate. Other experiments, which he intended to publish later, had induced him to think that if the bacillus in question was really the cause of yellow fever, it would not be impossible to protect against the terrible disease the populations of countries exposed to epidemics of it.

At the conclusion of Dr. Gibier's paper Dr. L. Duncan Bulkley read one on *Unusual Methods of Acquiring Syphilis, with Reports of Cases*. He desired to call attention, he said, to the fact that not infrequently syphilis was acquired by means not only entirely innocent on the part of the sufferer, but which were also quite unexpected; and his object was to put the profession and the community on their guard against this unseen danger, to remove to some extent the odium commonly associated with the disease, since it was so frequently entirely undeserved, and to endeavor to create a public opinion that would before long insist on placing syphilis where it belonged, among the infectious diseases, so that it might be brought under the careful surveillance of the public authorities.

In the paper were recorded no less than seventy-five cases of extra-genital chancre, the largest number ever reported by any American observer, and he believed that the relative frequency of the contraction of syphilis otherwise than by sexual intercourse was by no means sufficiently appreciated. The innocent transmission of the disease, he said, had given rise to dozens of epidemics in

the past, and many thousands of cases in which it had occurred had now been recorded. It was somewhat startling to learn that Fournier had recently made the statement that in about 25 per cent. of all the cases of syphilis in females which came under his observation the disease was innocently and undeservedly acquired. Yet this experience was corroborated by that of Ricord, and Dr. Bulkley said that in his own private practice this class of cases amounted to as much as 40 per cent.

Of his 65 cases of extra-genital chancre, 34 were in males and 31 in females. In 30 the chancre was on the lips, in 7 on the fingers, in 6 on the breasts, in 6 on the tonsils, in 5 on the tongue, in 3 on the cheek, in 2 on the chin, and in 1 each on the nose, eyelid, ear, hand, forearm and sacral region. He has divided the unusual methods of acquiring syphilis into three main groups as follows: 1, syphilis economica; 2, syphilis brephotrophica; and 3, syphilis technica. The first, *syphilis economica*, he said, was acquired in the ordinary occupations of life, and it in turn was divided into three main groups, viz.: 1, domestic transmission; 2, industrial transmission; and 3, personal transmission. Many cases had been recorded in which the disease was contracted from knives, forks, spoons, drinking-cups, etc. A very common method was by means of tobacco pipes smoked by different persons in succession, and one such case occurring in his own experience he related. Cigars are also a common source of infection, and he said that some time ago he had reported two well authenticated cases of this kind occurring in physicians. More recently he had met with a third case, in which, however, the history was less certain. Various articles of personal apparel have been known to convey the disease, and he gave an interesting account of a case of his own in which it was contracted from a bathing-suit. In this instance, in which the disease was situated in the sacral region, there could be no question that the suit was infected with virus derived from mucous patches on the person of some previous wearer.

Bedding, toilet articles, opera-glasses and canes, he said, had all been known to convey the infection, and the next case that he related from his clinical experience was one in which the chancre was situated on the tongue and was contracted from pins placed in the mouth. One physician had told him of a case in which caustic used on a syphilitic sore had carried the poison, the virus probably adhering to the caustic holder. Dr. Bulkley said that he had never been able to hear of a single instance in which the disease was contracted from privy seats or urinals, popularly supposed to be such a common source of infection.

The second group of *syphilis economica* embraces all cases of industrial transmission during or by means of various trade occupations. Glass-blow-

ers' syphilis is one of the most common instances of this, and he has collected 162 cases of it. As-sayers and goldsmiths are also liable to become infected through their occupations, and musicians from their instruments. Tacks, pins and coin have been known to convey the poison, but no case is as yet on record in which it has been alleged that the disease has been contracted from paper money or from postage stamps. Dr. Bulkley said that laundresses were commonly supposed to be peculiarly liable to infection from the clothing of syphilitic subjects, but in reality this was not the case, since the fact that the hands were so constantly in warm water rendered absorption difficult.

In the third group is classed personal transmission by kissing, biting, etc., and next to the venereal act kissing is at the present day the most frequent cause of syphilitic infection. In this way children become infected by their parents and young women by their lovers, and he related an instance in which syphilis was given by the same man to two ladies to whom he was successively engaged. Biting and tooth-wounds also sometimes convey the virus of syphilis, and one case is on record in which it was purposely transmitted in this way from spite. Other sources of infection that might be mentioned, he said, were scratching, pinching and innocent contact with syphilitic patients in bed or while carrying such patients.

In the second class, *syphilis brephotrophica*, Dr. Bulkley makes two groups, viz.: transmission from the nutrition of infants, and transmission from general attendance upon infants. In a village in France no less than forty cases of syphilis were once traced to a single child. Articles used in the hand-feeding of infants, and in the general care of infants' articles and in the nursery toilet, combs, napkins, etc., may be the means of infection, while the disease is sometimes transmitted through scratches and tooth-wounds by infants.

Syphilis technica is that which arises from body-service by physicians, nurses and attendants. It comprises a large number of sub-groups, but the principal are the following: 1, where the operator is the victim; 2, where the operator is the syphilofer; and 3, where the operator is the medium. There are almost numberless instances on record in which the physician has contracted the disease from a syphilitic patient. It is sometimes acquired during operations and sometimes in dissecting; while not infrequently students become infected through manipulative procedures. The largest proportion of cases is among accoucheurs and midwives. In one case that came under Dr. Bulkley's observation a lady contracted a chancre on the finger from dressing the eye of a relative affected with syphilitic disease. Many instances are known in which chancres on the eyelids, nostrils and lips have been caused by carrying the soiled fingers to these parts; and physicians some-

times contract the disease from syphilitic patients coughing in their faces, or while engaged in practicing artificial respiration on newborn infants.

The second group, where the operator is the syphilifer, is a very large one. Here the operator communicates his own syphilis in performing some body-service; and some years ago, in Russia, a female quack infected quite a large number of individuals with the disease while engaged in removing foreign bodies from the eye with the tip of the tongue. Dr. Bulkley said it was also a fact that two similar cases had been reported in this country.

In the third group of cases the operator is the medium, carrying the poison from one patient to another. Instances of this are well known in connection with vaccination, circumcision, transplantation of teeth, wet-cupping, and minor operations. Dental instruments sometimes convey syphilitic virus, and he said he knew of three cases in which this was done through the agency of razor wounds. Twenty-five observers have reported cases of syphilis originating from Eustachian catheterization, and about sixty such cases have been attributed to a certain ear specialist in Paris.

It could, therefore, readily be seen, Dr. Bulkley said in conclusion, that syphilis was a frequent source of unseen danger, and that it was by no means always a venereal affection. As we learned more of the disease it became more and more probable that it was much more common than was generally supposed. The only wonder, however, considering the varied sources of infection, was that the cases were not more frequent than they really were. The prevention of this great evil claimed, consequently, the best thought of the community and the profession.

The total amount raised from this season's hospital collection up to the date of the annual meeting of the Hospital Saturday and Sunday Association, January 21, was \$40,345. On this occasion the General Agent of the Association stated that the final amount of the collection would be larger than that of last year, which was about \$50,000, and that it would probably reach nearly \$52,000.

At the annual election of the New York County Medical Association the following officers were elected for the ensuing year: President, Dr. Charles S. Wood; Vice President, Dr. George Tucker Harrison; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Augustus D. Ruggles; Treasurer, Dr. John H. Hinton; Member of the Executive Committee, Dr. S. B. Wylie McLeod.

P. B. P.

THE meeting of the American Medical Association at Newport, R. I., promises to be the best in its results, and to have the largest attendance of any yet held.

LETTERS.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith. In changing address subscribers will please give old address.

Pneumonia from Contusion? Is there a Lung Concussion?

To the Editor:—Can we have a pneumonia caused by an injury to the chest-wall, presenting the physical signs of that malady, with few, if any, of its rational or constitutional signs? If so, how can we account for the absence of its commonly attendant symptoms? These questions are suggested by a case which recently occurred in the practice of my friend, Dr. John Vander Laan, of this city, through whose courtesy I am permitted to give the following history:

G. G., a Hollander, æt. 45, of good habits and excellent health, while working on a pile driver, June 23, last, fell with the tower to the ground, a distance of about eighteen feet. He struck on his feet, but losing his balance fell on his right side against a pile of lumber. He was carried home unconscious. His physician saw him about two hours after, when he had fully regained consciousness. No external signs of injury could be detected. He complained of pain along the spine, from the cervical to the sacral region; over the right hypochondrium, and the epigastrium. There was numbness and tingling of the feet and legs. Aside from this, the general sensations were normal. There was no vomiting, no hæmoptysis, no pain except in the right side on deep inspiration. Pulse was 110; respiration 24; some evidences of shock. Auscultation and percussion revealed nothing. Left pupil was somewhat dilated. He rallied under appropriate treatment so that on the 24th he was quite comfortable. The pulse was still rapid and wanting in volume and tone. The temperature was normal. The pain in the right hypochondrium persisted, and the patient complained of epigastric distress. Pulse still rapid; respiration same as on day before, but more shallow. Movement of right side less free on account of pain. Negative results from auscultation and percussion.

On the 25th, the second day after the accident, the temperature rose to 101° F. The other symptoms remained the same. Bowels moved by aid of a laxative. The patient felt so well it was not necessary to call next day. He continued to improve, so that on the 27th he was told no more calls would be made until sent for. Examination at this time showed the left pupil still dilated; pulse 90; respiration 22; temperature 99°. The appetite was improved. Bowels moved normally. There was free perspiration. The limbs were warm, could be moved with comfort, but were still somewhat numb. There was some

epigastric tenderness and pain in right side on movement. There was no cough; no expectoration. Negative results from auscultation and percussion. Improvement continued until the afternoon of June 30, when the patient began to complain of dyspnoea and epigastric distress. He was seen again on the morning of July 1, when it was found that there had been a consolidation of the base of the left lung posteriorly. There was dullness over the region; bronchial breathing; crepitant râles. No cough or expectoration. Pulse 110; temperature 100°; respiration 26. There was profuse sweating and extreme thirst. No trouble could be discovered in the right side. Heart sounds more normal. Pupil still dilated. On the 2d, the left side was found to be clearing up, but examination of the right side revealed dullness over the lower two-thirds posteriorly, together with bronchial breathing and crepitant râles. The temperature was normal; pulse 120, weak and lacking in volume. Heart sounds were normal but labored. Cough and expectoration were still absent. On the 3d, percussion elicited dullness over the entire right lung with bronchial breathing, but no râles. The temperature was 98°; respiration 34; appetite was lost. There was great thirst, and the patient complained of being excessively hot when the extremities were cold to the touch. There was a slight hacking from time to time, as if clearing of the throat. The patient suffered no pain. The heart's action was labored. On the 4th and 5th, the symptoms continued about the same, except perhaps more marked. There was a growing loss of power in the heart's action. Pulse 130, regular and weak; temperature 97.5°. On the 6th, the radial pulse could with difficulty be detected. There was intense dyspnoea. The extremities became still more cold to the touch, though the patient could scarcely tolerate any covering over them. He complained of excessive warmth. Physical signs were the same, except the presence of a few moist râles at the base of the left lung. The apex beat seemed crowded about two inches and a half to the left. July 7, an aspiration needle was introduced into the right side, but failed to discover any fluid. I saw the patient with Dr. Vander Laan on the afternoon of this day. He was evidently at that time *in extremis*. The extremities were cold and pulseless. He was cyanosed. Breathing was labored and shallow. The heart was weak; the second sound almost wholly lost. There seemed complete consolidation of the right lung with some congestion of the base of the left. The mind was clear, and had been from the first. There was still dilatation of the left pupil. The patient had scarcely slept since the accident. He died that evening. Unfortunately an autopsy was not allowed.

This case has seemed to me a particularly in-

teresting one, and as having some bearing on the question of the local or constitutional nature of pneumonia, if it be a pneumonia, as its physical signs would seem to have it. Loomis, arguing for the constitutional nature of the disease, claims that a traumatism never produces a lobar pneumonia. It is to be regretted that a post-mortem examination could not be had in this case, but if physical signs alone can be relied on, we had here a pathological condition of the lung similar to that existing in that malady, and it seems to me a case in point of lobar pneumonia of traumatic origin. The nervous pneumonia observed throughout would seem to indicate that the force of the injury was spent upon the cerebro-spinal system. It is a well-known fact that hepatization of the lung may be produced by section of the vagus. Why may we not attribute the consolidation in this case to a lesion of the pneumogastric? If the engorgement was caused in this instance by a deranged vagus, why not in every case, the chill and fever depending entirely upon the extent to which the same causes influence the heat centre of the brain?

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The Minnesota Medical Act.

To the Editor:—In response to the suggestions of many of the profession, permit me to submit to your journal a brief résumé of the work accomplished by the State Board of Medical Examiners of Minnesota in the brief period of their existence, working under the provisions of the present State Medical Practice Act. These statistics are presented trusting they may direct the attention of the profession anew to the benefit to be derived by both the public and profession by efficient medical legislation, and trusting it may further stimulate the profession in securing, at the hands of the respective legislatures, now in session, such legislation as is required to protect both the public and profession. The present Act regulating the practice of medicine in Minnesota, became operative, July 1, 1887, and succeeded the old Act that had been in successful operation for a period of four and a-half years. The old Act was a verbatim copy of the present Illinois Act, excepting that the exemption clause was five years instead of ten, which is the period of exemption of the Illinois Act. Through the operations of the old Act the profession of the State had experienced some of the benefits of medical legislation, and was therefore disposed to aid and support the present Act in every way possible. The Minnesota Act has been enforced in a quiet, conscientious and determined manner by a board composed of the leading representative men of the profession of the State. The Act has received no mention by the medical press of the country, not-

withstanding it is the best Act of any State and is as ably enforced as any of the various State Medical Acts. The present board have held seven quarterly meetings, at which eighty-six physicians have applied to be examined. Of this number six were refused admission to the class, not having taken three full courses of medical lectures of six months duration each. Of the eighty entering the various examinations fifty-one were licensed. Some of this number underwent several quarterly examinations before being successful. Twenty-nine were rejected, not possessing the knowledge of Medicine required by the board. Of those who passed, forty-nine are Regulars and two Homœopaths. Of those failing to pass the examination, eighteen were Regulars, eight were Homœopathic, and only three were eclectic physicians. Those passing the examinations of the board were mostly graduates of McGill, Harvard, Chicago Medical, and the University of Michigan. Students who were graduates of the two-term schools and those having sessions of less than six months duration, are of course prohibited the privilege of practice in the State.

PERRY H. MILLARD, M.D.

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A Needle in the Heart.

To the Editor:—Noticing the article in the last JOURNAL, by Sara A. Kime, M.D., "The Migration of a Needle," calls to my mind a case that came under my own observation about twenty-eight years ago, in the village of Warsaw, Western New York, where I was then practicing.

I was called to attend Mr. T., æt. 20 years, who for many weeks had been suffering severe pain in the region of the heart, attended with violent palpitation upon making any considerable exertion. Not a moment passed, unless he was asleep, that he was not tormented with an indescribably oppressed feeling about the chest. The pulse was somewhat accelerated and irregular. I had the clothing removed from the chest, so that I could make a thorough examination by inspection, as well as by auscultation and percussion, and while passing my hand over the heart to ascertain the force of its impulse, I felt a little hardened elevation. It was not visible when looking at the chest, but it could be readily felt with the finger, or the flat surface of the hand pressed gently upon it, and moved upwards and downwards.

With a bistoury I incised the skin directly over it, and with a pair of forceps removed an ordinary sewing needle an inch and a-half in length. All the unpleasant symptoms very soon subsided, and in a week or two my patient was quite as well as he had ever been.

From the location of the needle, and the attend-

ing symptoms, I was quite sure it had, for a time, found a resting place in the very substance of the heart itself.

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BOOK NOTICES.

A CLINICAL ATLAS OF VENEREAL AND SKIN DISEASES, INCLUDING DIAGNOSIS, PROGNOSIS AND TREATMENT. By ROBERT W. TAYLOR, A.M., M.D., Surgeon to Charity Hospital, New York, etc., etc. Philadelphia: Lea Brothers & Co. 1888. In eight parts. Price per part \$2.50.

We have received the first four parts of this handsome work, which is published in a manner highly creditable to the well-known house of Lea Brothers & Co. The lithographs are executed by the Sinclairs, and it is needless to say are in the highest style of the art. The paper is superb, and the typography is exquisite.

There is no formal preface and the author commences part I by plunging directly into his subject. The publishers, however, have supplied a detached "prefatory note" in which they say:

"As no clinic, however large, can furnish the necessary materials, the entire literature of the subjects has been searched for its best illustrations, and selections made with proper permission of living authors. These have been completed by numerous reproductions from a collection of original paintings from life, gathered by the Author during many years of practice."

The well-known views of Dr. Taylor on venereal diseases are set forth on these stately pages in a pleasant and straightforward manner; but there is one blemish in the first parts that we would gladly pass over, except that our duty to our readers requires that book notices in these columns shall be impartial and accurate. This blemish is the frequent occurrence of such phrases as this, on page 167: "For further particulars as to the use of preparations of iodine, see Bumstead and Taylor, page 875"—and again on the same page, "For full particulars of the method of using inunctions see Bumstead and Taylor on venereal diseases, page 861." These remarks seem to imply that the Atlas is intended as a companion to the work of Bumstead and Taylor, whereas, in fact it is intended to be, and really is, complete in itself.

The author of the atlas surely could not have intended to depreciate this later work, and we only regret that such a magnificent work should not contain all the author thinks the text requires to fully declare his meaning.

Dr. Taylor is extremely cautious in his prognoses, and his candor is commendable; thus in speaking of the etiology of acne simplex, he says: "The pivotal questions are, what causes the inflammation that precedes the formation of the plug?"

And why is it so prone to appear at certain times of life? . . . when we know really so little it may seem unkind to taunt with ignorance those who think they know it all, but it will certainly be conceded by scientific men that such statements as, 'certain conditions may be justly charged' et cet., 'the relation is especially intimate,' 'such and such symptoms are not infrequent in those suffering from acne,' et cet., are really the barest platitudes."

The author is a safe guide to follow, and he has produced a work that is of lasting value. Pathological theories may indeed change, and the text require many modifications through the changes of time, but these faithful reproductions of conditions actually observed, will be accurate so long as human frailty exists, and its consequences are visited on the human species.

LECTURES TO PRACTITIONERS ON THE DISEASES OF THE KIDNEY AMENABLE TO SURGICAL TREATMENT. By DAVID NEWMAN, M.D., Surgeon to the Western Infirmary; Pathologist to and Lecturer on Pathology at the Glasgow Royal Infirmary, etc., etc. 8vo, cloth, pp. 472. London: Longmans, Green & Co. 1888. Chicago: A. C. McClurg & Co. Price, \$5.50.

In these days of bold surgery this book is a very timely one. The author everywhere shows his thoroughly practical grasp of his subject, and if a perusal of its pages serves to cool the ardor of persons fond of operating, it at the same time gives good and sufficient reasons for the performance of certain operations and gives in detail the result of the author's observations.

The scope of the work is more extended than would be considered possible at first sight. It includes a discussion of the normal kidney and its relationships; malpositions; movable kidney; and floating kidney; and while the distinction is made clear between them, the author thinks it impossible to distinguish the movable from the floating kidney by physical examination. The general symptomatology of kidney disease is discussed in the second lecture, and then follow lectures on hydronephrosis, cystic disease, suppurative diseases of the kidney, infective new formations, injuries of the kidney and ureter, tumors and operations.

In regard to catheterization of the ureters the author says:

"To perform such a delicate operation by the sensation of touch alone is very difficult, and it is only by patient and prolonged practice on the dead subject that one can hope to succeed in performing the operation on the living, but once the art has been mastered it is easier to pass a catheter into the living ureter than a dead one. This may be done with or without the electric light. Early in 1883 I devised and used an electric endoscope and ureter catheters, and found that, when the bladder is well illuminated, the orifices of the ureters are easily seen as narrow, oblique, slit-like openings, about 2 inches apart

from one another. These openings are situated at the posterior angles of the trigon, nearly $1\frac{1}{2}$ inches from the inner orifice of the urethra, and are united by a curved elevation which, however, extends a little beyond them."

The author uses this combined endoscope and catheter, but admits that where the bladder wall has become greatly changed from disease, the operation is unreliable and unsatisfactory.

The book is well printed and is a very valuable addition to the library of the general practitioner as well as of the general surgeon, while for those practicing bladder and kidney surgery it is indispensable.

MISCELLANY.

THE BRITISH AND THE AMERICAN MEDICAL ASSOCIATION.—In an editorial, on the British Medical Association, in the *British Medical Journal*, of December 8, 1888, Mr. Hart calls attention to the fact that nearly one thousand new members have been enrolled during the past year, which means an increase of that many subscribers to the Association Journal, which has now reached the very handsome figure of fifteen thousand.

With more than sixty thousand regular physicians practicing in the United States, we should at least have for our own Association Journal as large, if not a larger circulation, than Mr. Hart has been able to secure for the *British Medical Journal*.

The financial condition of the British Medical Association may readily be appreciated from an examination of the balance sheet showing thirty-one thousand pounds sterling surplus in the Treasury. Notwithstanding the fact that many items of considerable expenditure were incurred the last year, embracing such items as the moving into the handsome new building on the Strand, the annual dues of members of the British Medical Association, which includes a copy of the Association Journal, are the same as in the American Medical Association. This Journal instead of being an incubus is, in fact, a source of handsome profit.

It is, therefore, plain that by good management of the affairs of our own National body, we shall soon be able to have our own building and printing presses for the publication of the Association Journal, and a handsome equipment for increasing the usefulness of the Association itself. There is now in the minds of many of the best men in the two countries, a sort of fraternal spirit of rivalry which may be noticed in all the Presidential addresses, in the reports of all the foreign delegations, and in the editorials of the official organs of the two great National bodies.—*Progress*, Jan., 1889.

The American Medical Association is a great National medical organization, and should have a permanent "habitat" in the city of the Capitol of the Nation. There the Association already has its library. There National aid could be secured for the erection of a permanent home for the library, for THE JOURNAL, and for the biennial meetings of the Association, as at present required by the by-laws.

Whether it is a wise provision to hold each alternate meeting in Washington appears to be a question admitting of some doubt in the minds of the members, as the law enacted by them appears not to be observed. Regardless of this, however, we believe frequent meetings in Washington would give great satisfaction, and permanent headquarters there would serve to give tone to and encourage enthusiasm in forwarding the growth and maintaining the influence of the American Medical Association.—*Memphis Medical Monthly*, Jan., 1889.

DURATION OF INCUBATION AND CONTAGIOUSNESS.—The Clinical Society of London have issued the following circular:

Sir:—Ten years ago the Clinical Society of London appointed a Committee to investigate the periods of incubation and of contagiousness of the commoner communicable diseases.

A certain amount of valuable material was received, but it was thought desirable to defer the presentation of a report until further experience was available. The Society has now determined to gather additional information with a view to the preparation of an early report on the subject, and for this purpose has reconstructed the Committee.

The Committee is desirous of obtaining particulars of cases which throw light upon the periods of incubation and contagiousness of the below-mentioned diseases, and will be grateful for notes of any cases where the facts can be ascertained with sufficient precision to afford grounds for conclusions.

It is thought that gentlemen practicing at a distance from large centers of population, and especially those engaged in the Public Health Service, or associated with schools, would be able to supply information of the kind required. A single case in which the dates of exposure to infection and the appearance of the first symptom can be accurately fixed, especially where the exposure has been limited in duration, would be highly valued.

The following diseases are included within the scope of the inquiry:

Variola.	Typhus.	Cholera.
Varicella.	Relapsing Fever.	Erysipelas.
Measles.	Whooping-cough.	Mumps.
German Measles.	Diphtheria.	Infectious Sore
Scarlet Fever.	Enteric Fever.	Throat.

The Committee consists of Dr. W. H. Broadbent, Dr. George Buchanan, Dr. Cayley, Dr. Thomas Barlow, Dr. Alfred Hill, Dr. Isambard Owen, Dr. Thorne Thorne, Dr. Alder Smith, and Mr. R. W. Parker, with Mr. Shirley Murphy, 41 Queen Anne St., and Dr. Dawson Williams, 25 Old Burlington St., W., as Honorary Secretaries, to one of whom communications should be addressed.

I am, etc., W. H. BROADBENT.

Clinical Society of London, Chairman of Committee.
January, 1888.

PAMPHLETS RECEIVED.

Cochran, Jerome, M.D., State Health Officer of Alabama. *Problems in regard to Yellow Fever and the Prevention of Yellow Fever Epidemics.* Reprint from Trans. Am. Public Health Association. 1888.

Wimmer, Sebastian J., M.A., M.D., St. Mary's, Florida. *Improprieties of Dress an Important Etiological Factor in Many Diseases Peculiar to Women.* Reprint from Med. Reg. 1888.

Busey, Samuel C., M.D., Washington, D.C. *The Wrong of Craniotomy upon the Living Fetus.* Reprint from Am. Jour. Obstetrics. 1889.

Reed, R. Harvey, M.D., Mansfield O. *Proceedings of the Fifth Annual Meeting of the Ohio State Sanitary Association.* 1888.

Dana, Charles L., A.M., M.D., New York. *The Cortical Localization of the Cutaneous Sensations.* Reprint from the Journal of Nervous and Mental Diseases. October, 1888.

Bailey, Steele, M.D., Stanford, Ky. *Minutes Kentucky State Medical Society,* July 11-13, 1888.

Taylor, Gov. Robert L., of Tennessee. *Message to the Forty-sixth General Assembly.* 1889.

Rutherford, R., M.D., Houston, Tex. *Report of Texas Quarantine for 1887-8.* 1889.

Gehrung, Eugene C., M.D., St. Louis. *Electrolysis; Its Value in Diagnosis as well as in Treatment of Intra-*

Abdominal and Intra-Pelvic Tumors by the Aid of a New Instrument. Reprint from Amer. Jour. Obst., etc. August, 1888.

LETTERS RECEIVED.

J. Walter Thompson, New York; R. W. Gardner, New York; Jerome Kidder Mfg. Co., New York; Thos. Leeming & Co., New York; J. P. Crawford, M.D., Davenport, Ia.; J. R. Browne, M.D., Mottville, N. Y.; C. B. Kibler, M.D., Corry, Pa.; H. C. Markham, M.D., Independence, Ia.; Edward F. Wells, M.D., Shelbyville, Ind.; Addinell Hewson, M.D., Philadelphia, Pa.; Chr. E. A. Gronbeck, New York; Geo. Poggenburg, New York; J. F. Rowley, Des Moines, Ia.; W. P. Cleary, New York; L. Barta & Co., Boston, Mass.; W. May Rew, M.D., Poughkeepsie, N. Y.; James Vick, Rochester, N. Y.; R. W. Gardner, New York; L. H. Dunning, M.D., South Bend, Ind.; Miss A. V. Pollard, Louisville, Ky.; R. T. Henderson, M.D., Jackson, Mo.; A. Ahlborn, M.D., Detroit, Mich.; John B. Roberts, M.D., Philadelphia, Pa.; S. C. McCormick, M.D., Duluth, Minn.; F. R. Reynolds, M.D., Menomone, Wis.; Charles W. Evans, M.D., Chicago, Ill.; J. R. Cockroft, Esq., Chicago, Ill.; C. L. Fox, M.D., Kingsville, O.; H. G. Buckingham, M.D., Clayton, N. J.; Harold N. Moyer, M.D., Chicago, Ill.; A. F. Walter, M.D., Gladbrook, Ia.; E. Dolan, P.M., Troy, N. Y.; F. H. Boucher, M.D., Marshalltown, Ia.; Thomas Linn, M.D., Paris, France; R. J. Dunglison, M.D., Philadelphia, Pa.; Mary Hayden, Freeport, Ill.; H. Judd, M.D., Galesburg, Ill.; S. P. Deahofe, M.D., Potsdam, O.; J. P. Cook, Esq., Kenton, O.; Llewellyn Eliot, M.D., Washington; R. C. Jones, M.D., Cincinnati, O.; Howard W. Quick, M.D., Burton, O.; Geo. T. Trezevant, M.D., Abilene, Texas; Jno. S. Coleman, M.D., Augusta, Ga.; John C. Lawver, Esq., Jersey City, N. J.; Wm. Harsha, M.D., Decatur, Ill.; Eugene Way, M.D., Dennisville, N. J.; Samuel B. Rowe, M.D., Rolla, Mo.; Thad. A. Reamy, M.D., Cincinnati, O.; Mr. Burr Wittichell, Vermont, Ill.; T. H. McCormick, M.D., Ft. Wayne, Ind.; G. W. H. Kemper, M.D., Muncie, Ind.; W. O. Anderson, M.D., Eureka, Cal.; Chas. W. Hitchcock, M.D., Kalamazoo, Mich.; Mr. Samuel Wright, Columbia, Pa.; Frank W. Garber, M.D., Muskegon, Mich.; E. S. McKee, M.D., Cincinnati, O.; H. Augustus Wilson, M.D., Philadelphia, Pa.; P. O. Hooper, M.D., Little Rock, Ark.; W. W. Dawson, M.D., Cincinnati, O.; W. A. Kane King, M.D., Carthage, Mo.; A. N. Bell, A.M., M.D., Brooklyn, N. Y.; T. Wertz, M.D., Jasper, Ind.; Wm. B. DeWees, M.D., Salina, Kan.; Mr. S. W. Allen, Lowell, Mass.; John P. Stoddard, M.D., Muskegon, Mich.; B. Westermann & Co., New York; C. A. Foulks, M.D., Argentine, Ks.; J. M. Toner, M.D., Washington.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Five Weeks Ending January 20, 1889.

P. A. Surgeon W. A. Wheeler, when relieved at Buffalo, N. Y., to proceed to Cleveland, O., and assume charge of the Service. January 3, 1889.
P. A. Surgeon F. M. Urquhart, to proceed to Buffalo, N. Y., and assume charge of the Service. January 3, 1889. Placed on waiting orders, on account of sickness, January 12, 1889.
P. A. Surgeon P. M. Carrington, granted leave of absence for thirty days. January 25, 1889.
P. A. Surgeon L. L. Williams, granted leave of absence for fifteen days. December 26, 1888.
Asst. Surgeon W. J. Pettus, ordered to examination for promotion. January 15, 1889.
Asst. Surgeon G. M. Magruder, to proceed to Louisville, Ky., for temporary duty. January 22, 1889.
Asst. Surgeon J. J. Kinyoun, to proceed to Baltimore, Md., for temporary duty. December 29, 1888.
Asst. Surgeon A. W. Condict, granted leave of absence for thirty days. January 25, 1889.

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ORIGINAL ARTICLES.

THE PSYCHICAL TREATMENT OF INSANITY.

*Read before the Mississippi Valley Medical Association at St. Louis,
September, 1888.*

BY ROSE S. WRIGHT BRYAN, M.D.,

"CLOVERLY," GLENCOE, COOK COUNTY, ILLINOIS.

I once heard a patient say: "Every Superintendent of an insane asylum should be shut up for six months in his own wards—especially the violent ones—before he is allowed to enter upon his professional duties, in order that he may realize what the *insane atmosphere* means. This ward is literally hell." The lady was herself considered a dangerous and irresponsible person, but I felt that she was uttering a truth, and the remark occurred to me years afterward, under utterly different circumstances, with renewed force. I had been for several months assistant physician in the Massachusetts States Prison for Women, and, interested in my work, had hardly left the building during that time until I was urged to go to an evening reception at Wellesley College, during which and before I reached President Freeman, whose guest I was, I became conscious of a curious mental condition, an overwhelming, bewildering feeling (the counterpart of that physical one we experience when we step out of the darkness into the light), and I believed then, as I believe now, that the unspoken influence of those four hundred earnest, honest students had blinded me, because, during the previous seven months, I had been living and breathing a psychical atmosphere which was saturated with ignorance and crime. Yet I had never been consciously, or even apparently depressed by my surroundings, in proof of which I will take the liberty of stating that not many days before this occurrence, a woman, whose repellant manner had always prevented my addressing any word of sympathy to her, said to me as she was going away: "Doctor, I have often wished you would talk to and encourage me, and you never have; but I must tell you that your cheerful presence has helped me; it has made me feel that there might be hope in the world."

I quote these words because I believe them to

be of value as psychical facts, for it is only through the study of facts that we can hope to arrive at the laws which govern them. That most self-evident ones are ignored in the treatment of insanity I firmly believe, and hope to prove, because the amelioration of the condition of the victims of mental disease was the source of my own personal interest in the study of medicine, and as it, my own personal interest, was largely aroused by the experience of a woman who was confined in an asylum for many months after her convalescence was well established, I will quote from a letter of hers certain passages which I think cannot fail to awaken in your minds, as they still do in mine, the suspicion that the medical profession may wisely pause sometimes in their study of localization, and the morbid anatomy of grave lesions, to listen to the suggestions of the victims of morbid conditions, which, if not so interesting from a surgical standpoint, may, under wiser methods of treatment, average as brilliant results:

"Lost in contemplation and admiration of this Institution since there is nothing else to be lost in, bereft as I am of all my senses and incapable of telling whether I have a pain in my breast or if it be merely the overburdening sense of gratitude I feel at being permitted to remain in so charming a retreat, I nevertheless know that I should be guilty of gross neglect, did I not try to describe to others some of the pleasures and advantages of a permanent abode in this Paradise, and induce them to flee from homes and families in order that they may be permitted to gaze *forever* on the red bricks and evergreen trees in the front yard, or the fences and sheds of the back yard of this delectable ground. Oh! men of the world, why toil and delve when the State Asylum hospitably yawns and begs you to throw yourself into its open jaws—assuring you that they will snap so tight upon you that nobody can ever get you out, not even your own wife, except by wasting all the red tape in the country. If you are *sane* that is no drawback, you will be converted into lunatics as speedily as possible, and if fortunately you are moon-struck you will be kept so, for *of course* that is the happiest condition, *then* all your wishes are imaginary, and you have nothing to do but to eat, drink and be

merry. But, fearing you may think me incompetent to judge of the merits or demerits of a home to which I am so devotedly attached, I will try to write out for you the gist of a conversation which I overheard the other night between the Superintendent and a would or would-not-be patient—that was the question.

“S. Get home-sick and want to see your friends? Oh! no, never. This is a beautiful place! Rather monotonous? Not at all! Why they used to have balls here, then there is church once a month, almost, and the ladies all ride out in the bus every six weeks by a perfect rotary system.

“Are the attendants kind? Of course, what else could they be.

“If you were sick? Sick, man! nobody ever is sick here, they never need anything but a little quinine or tonic or chlorate of potash.

“We might imagine you were deranged and treat you? Never, Sir, never! I assure you! You mistake the case. Insanity is a spontaneous growth of the brain, the cause of which it would be as useless to investigate as to try to find a needle in a hay stack, therefore we never attempt it. Why, Sir, we have patients that have been here for thirty years, and nobody has ever tried to find out why. Nonsense, nonsense, let them alone, and they'll come home, their wits, I mean, whenever they choose, but they never bring any tales with them.

“Afraid you will be an imposition on the State? Oh, no! — is rich enough to keep all her sons in elegant leisure when the regular asylum work is done; but then if you are conscientious about desiring not to waste your spare time, you can wait on the attendants; the State underpays them just to give you this privilege, and to teach you a becoming humility in serving your servants.

“What are the credentials upon which we accept attendants? Muscle, Sir, muscle, and if they have not got that, pluck! Do they need any training? Of course not; have I not already explained to you that there is no science or skill necessary in managing insane people. If they want to get well they can, but if they won't, they won't, you may depend on that. . . . But I am wearying you, just come and try the system for yourself, or step round next board day and dine with the Directors, elegant affair, and all the scraps sent to the patients, so we always give them a little less dinner on that day in order that they may enjoy the treat.”

This letter, dated 1881, was absolutely ignored by those who should have been interested at the time in the charges that it makes, and although I am ready to admit that there have been both changes and improvements in the majority of asylums for the insane since it was written, I must, on the other hand, contend that it suggests errors of management still prevalent in many,

and that its statements and inferences (which were in the main justified by the facts) were sufficient excuse for my subsequent investigations, and therefore for this discussion, which I have entitled the *Psychical Treatment of Insanity*.

In dealing with my subject, to the extent that the limited time will allow, I desire to include all those agencies which affect the emotional as well as the intellectual processes, exclusive of medicinal substances, whose importance and value I do not intend to question, but rather to emphasize by their omission, the impossibility of doing justice to the therapeutic value of drugs in a paper which is merely suggestive as to methods. The agencies to which I do wish to call your attention, I will divide, as they seem to arrange themselves, into mechanical and personal.

By *mechanical agencies* I intend to indicate the locks and bars, and other means of restraint which deprive a patient of his liberty. That they are very often *per se* psychical means of cure every one familiar with the institution treatment of the insane has not failed to observe. The restraints they impose is not only an *unrealized* benefit, but is very often *felt* to be a distinct relief by the restless, perturbed, unhappy prisoners, as any asylum physician might learn if he would question carefully patients beginning to recover. I remember that a patient said to me: “They drew the nurse's bed across the door when I first came here so that I could not go easily out, but they need not have been afraid, I was too glad to feel shut in;” and another most graphically described the anguish of restlessness from which she suffered, and the relief from responsibility she felt when the ward door shut upon her, and she knew she could not be driven hither and thither, except within most narrow limits, by the unreasoning impulses which possessed her.

The unconscious influence of restraint may be compared to that exerted by the trainer who teaches his fleas to walk by suspending a perfectly transparent glass above them until they are impressed with the belief that they have lost the ability to hop, or to that of the mother who holds an excited, struggling, angry child perfectly still until the inability to express its emotions brings repose. The principle underlying these examples is a very important one, namely, the central modification induced through peripheral sensations, and is capable of extended amplification whenever patients are treated individually.

The primary effect of restraint—the mental relief resulting from the inability to act—is often a very large element in the cure of patients committed to asylums for treatment, and acts irrespectively, although conjointly with that felt in the removal from surroundings which are associated with, if not the cause of, the mental disturbance. But in all cases which are capable of im-

provement there comes a time when mechanical control and separation from the normal interests of life become detrimental and they subdue the desire for spontaneous activity, so that the patient, instead of progressing, becomes converted into a more or less complicated automaton. It is just at this point that the wisdom and judgment of the alienists are taxed to the utmost, and that a timid and conservative man may condemn his patient to life-long incarceration because he does not take the personal risk incident to the discharge of a patient not absolutely well; secure in his selfishness, for demented wards, like graveyards and charity, conceal a multitude of sins. I could point you to-day to a patient, thus doomed to life-long residence in a State Asylum by one Superintendent, who was discharged within three months by his successor, with absolutely no change in her condition in the meantime, and who has nevertheless remained perfectly well for years.

I know another lady who, five months ago, was pronounced incurable by the physicians resident in a celebrated private asylum, but who is now far on the road to recovery in a little hospital where she has become an individual, and an interested member of a family circle. Both of these women are convinced that a longer continuance of routine asylum existence would have resulted in a relapse in the one case, and dementia in the other; and in both cases the prognosis of the physicians who pronounced them hopeless would thus have been substantiated as correct. How many others are wasting their precious lives under precisely similar circumstances it is impossible to determine and idle to merely contemplate.

The recognition of medical men that, because the mechanical restraint of asylum life is so extremely beneficial in particular styles and certain cases of insanity, it should be abandoned in others, is of course, the ground of the recent reforms in institution management which have resulted in a wise and increasing use of the parole system, and a better classification of patients, both in this country and in England; but, and in this position I fear I as yet stand alone, I believe that we also need private hospitals which shall be halfway stations between the asylum and the home, where patients may be received without commitments and treated without restraints, putting them upon their honor and encouraging them to make a rational effort toward self-help; hospitals where not only convalescents may be received, but also that large class of persons who are in the incipient stages of mental alienation and who are now treated at home or put into asylums, to their own detriment.

Of these two classes of patients it is difficult to determine which deserves the most considerate pity, those who, through the misdirected love and most natural repugnance of their friends to plac-

ing them in institutions, drift into hopeless conditions which demand their, perhaps, life-long separation from home and friends; or those who, beginning to recover, are, when thrown upon their own resources, like blind men who have just had restored to them their sight. We understand the limitations of a person recovering from typhoid or pneumonia, but I do not think we begin to appreciate the dead weight of acquired habits under which the asylum convalescent staggers, habits of dependence and accommodation to the system of espionage necessary in all large institutions. I have been told by intelligent patients, that it was many weeks after their removal from an asylum before they could go out of doors, or even leave a room, without nervous dread and the sensation that some one was pursuing them; and it was stated as even of more importance that it was impossible for those who had never been insane to realize the strain to which they were subjected in readjusting themselves to their old surroundings, with the added knowledge that very much that they said would be discredited and disbelieved. If a man never mentally unbalanced knew that all his acts were viewed with suspicion and distrust, or fancied it, would he conduct himself naturally? Would he not, on the contrary, subject himself to suspicion in consequence? As did a certain patient who, coming out of an asylum to meet a dreadful grief, dared not give way lest she should be accused of a lack of self-control and was actually recommitted in consequence; because no one took the trouble to analyze her motives for self-restraint, it being easier to consider them due to a lack of feeling than to an excess of self-control.

The *personal agencies* which are psychical means of cure, or injury to the asylum patient, are those mental influences exerted by the physicians, the attendants, and the patients individually or *en masse*. These I will briefly refer to and in reverse order. The last, or *psychical atmosphere* of institutions, has received so little attention that I claimed for it your consideration in my opening paragraph, because I believe that, although this is the factor most frequently overlooked in the treatment of the insane, it is of vital importance. Not all patients are equally responsive to these subtle influences, nor to the gross mental condition of others, but careful inquiry into the personal experiences of many patients has convinced me that certain classes of the insane, notably patients suffering from the deteriorated conditions marked by melancholia, are far more susceptible to purely psychic forces than the sane. In all asylums, public (of necessity) and private, there is no deliberate effort, of which I am aware, to secure a preponderance of sane *thinking*—which does not necessarily imply sane *thinkers*. On the contrary—although there are diversities in the psychical atmosphere of institutions and of wards filled with patients

apparently identical in type, which our imperfect methods of observation may excuse us for ignoring—there is a disregard of most evident possibilities of good and evil in classifying patients together, which in many instances amounts to absolute brutality. Even if a Superintendent does not believe in psychic forces, what excuse can he offer for the existence in an institution under his control of any ward which is understood by the patients to be "incurable," and over the door of which is virtually inscribed "Abandon hope all ye who enter here." I have had a patient under my care who had been subjected for many weeks to *treatment* (?) in such a ward, and, although it took me months to argue her out of her determined and persistent reiteration of the statement that I need not try to do anything for her because she was a "hopeless case," to my mind the evidence was also conclusive that the depression and mental inertia consequent upon her association with so many persons suffering from terminal dementia was more markedly pernicious than the knowledge that she was considered hopeless.

We are all aware that many patients whose minds are in a condition of abnormal activity seem to enjoy the companionship of other insane persons, and that they will claim to have found them the most brilliant men or women they have ever met. Their appreciation of each other's society may arise from the disjointed and disconnected sentences they hear, and out of which they can wrench any meaning they desire, but I believe it is also the outcome of their unconscious recognition and enjoyment of the hyperexaltation from which each suffers, and that it is adding fuel to the flame of inordinate excitement to class such patients together indiscriminately, although there may be cases in which the frenzy of others becomes inhibitory in patients capable of fear.

The *better classification of patients* seems to me to imply not only smaller and more separate wards, but an intermingling of patients whose mental states will act as mutually corrective, a task which is hard and requires the same special study of cases I so desire to emphasize, but that it is not an impossible one my recent experience in the Cook County Poor House would indicate, for we there found it practicable (as we were forced to take care of them) to distribute between forty and fifty insane women among the three or four hundred other female inmates, by exercising a little judgment in this direction. When it is remembered that in wards accommodating on the average fifty persons we had no nurse or attendant on constant duty, and that the element which in this instance we might call *the diluent*, was most undisciplined and turbulent, I think you will justify me in using this instance as an illustration of the feasibility of the plan of distribution of patients which seems to me so preferable to that

ordinarily employed, and which gives a good attendant an opportunity to counterbalance mental states.

Of the disregard of the *real function of an attendant* I am pained to speak. Hardly anywhere does their selection indicate that the point has been reached where it has been realized that no person can have too much culture, too much intelligence, too much tact, who is to deal with the mind diseased. If it had, the whole system of asylum service would be modified, and in place of the attendant who now fulfills the duties of both house-servant and care-taker, we should have domestics to perform ward duties and personal service, and companions whose endowments, training, and character fit them fully to supplement the work of the physician. I once had an opportunity to watch the effect that two attendants respectively had upon the patients whom they shared in common. One was self-absorbed, the other self-forgetful; one taciturn, the other cheerful; one interested in keeping her position, the other in her patients, and there could not have been furnished a better object lesson. If there were time I could give you a record of individuals who knew that they largely owed their recovery to Miss X., while they rarely attributed any benefit to their contact with her partner, whose influence they almost invariably felt depressing and escaped from if possible; yet she was considered by those in authority the better employé—because a brisk housekeeper—and maintained her position for years, so little is the personality and personal influence of the attendant considered.

A letter written me from one of the Eastern asylums within two years will indicate that domestic duties are, even in institutions with training schools for attendants, the first requisite. The lady says, "It seems to me we are more servants than anything else. We have to do all the house-work, even the scrubbing and cleaning of the windows, etc. It may be well for me to learn these things, but if this work means giving up all my other interests (I mean forgetting the accomplishments you thought would be so useful in the care of the insane) I do not know whether it is right for me to stay."

In visiting the State Asylum at Elgin a few years since, I was impressed by the atmosphere of a certain ward as soon as we entered it, and I said, involuntarily, to the physician who was taking us through, "You have a good attendant here." "Yes," he replied, "we have. She seems to possess almost a genius for the care of the insane." I asked to see the girl, and questioned her a little. In response to my inquiry as to whether she had any theory in her care of her patients she replied: "No, except to treat them as if they were little children," and the happy faces of a row of old ladies busily sewing testified to her success. One of them, I was told, had been

extremely offensive in her personal habits when this attendant was put on the ward, but, in the few weeks which had elapsed since then, had learned to prize so highly sitting dressed up in a clean white apron, on a specially designated bench with the other successful candidates for the daily honor, that she had quite reformed. In this girl's own statement of her theory lies, I think, the key to the situation, although her limited education could not, in all probability, have taught her to fit it to all locks.

For, if insanity, as it has recently been defined, be "a disorder in the powers of adjustment of the organism to its environment," there should be, theoretically, two methods of cure: first, a correction of the adjustment, and second, an alteration in the environment. Science has been defined as "a lucid madness occupied with tabulating its own hallucinations," and the inventors, the discoverers, the martyrs of all ages, have been looked upon as madmen by a greater or smaller number of their contemporaries, simply because the latter were ignorant of the height and breadth and depth of the environment to which the object of their ridicule or pity had attuned himself, self-evident as it was to him. But, if we leave out this class of persons—those whose widened vision subjects them to a suspicion of want of mental balance—we find that the majority of the insane have contracted and distorted their horizon, and that we could, if we were wise enough, create for them within its limit a circle of interests and activities which, if it did not result in recovery, would at least make them happy and useful.

I believe that inmates of public institutions who are capable of working are capable of enjoying a reward of labor if properly presented to them, and that, since the State has not condemned them to hard work, no Superintendent is justified in utilizing their efforts without some compensation. This may be nominal, but it should be tangible, and with infinite tact directly devised as a stimulant, not only to the patient who receives it, but to those who are too lazy or too indifferent to employ themselves; and here we are again reminded of the necessity for more intelligent personal supervision of every case. The men or women whose mental capacity will not permit them to earn more than the salary ordinarily paid the asylum attendant are not capable of organizing appropriate plans of stimulation for individual cases, and the quota of physicians in any large institution is not great enough to allow them time for special work. That the public would be amply reimbursed for the added expense of employing proper persons to assist the physicians by the increase in cures and the value of the work performed by properly directed and stimulated patients I firmly believe, and think that we may even be enabled to demonstrate the advisability to our legislators, when we can persuade them that it is better to expend

\$500 for one year than \$100 for five years in curing a patient, if as an economical problem it is considered merely from standpoints of overcrowding and the saving of time to the individual.

Of the personal influence of physicians there is little to say, for, as a rule, they have no time to exert it; but, without desiring to criticise any of the profession needlessly, I am constrained to allude to two instances which have come within my own knowledge, where the lack of the power to individualize treatment demonstrated the possibility of erring in unusual cases.

There was a certain patient several years ago in a large asylum who called every man Lord John Lupton and every woman Mary Lupton, who yet for years carried all the notes and did much of the shopping for the attendants with unerring fidelity, and a serene contentment in feeling himself of use and independent (he was always paid a trifle for his services) which should have been instructive. Yet a new Superintendent, who did not believe in exceptions, shut him in a ward, not heeding poor Jeremiah's prophecy "that he would be out and doing when Dr. A. was dead and in his grave," a prophecy that was, fortunately for the prophet, fulfilled within a year.

There was at another time, in the same institution, a woman who, having had a "fixed delusion" for some years, was pronounced hopeless, according to the books, and left, therefore, to imagine at her pleasure that she was an unpardonable offender upon whom the church would fall if she should ever attempt to partake of the sacrament. A certain attendant, becoming convinced that, if this woman could once be persuaded to go to communion and so discover that the consequence she expected did not follow, she would be well, begged to take her, but the physician in charge of the case refused his consent, as he had no precedent to justify him in such an experiment. By dint of persistent persuasion, however, the attendant at last obtained her way, and the patient has, in consequence, been for years the house-keeper for the parish priest and a living refutation of some medical axioms.

The latter case reminds me of another which has proved to me most suggestive in dealing with patients whose delusions are narrowing themselves to one, and I think it, therefore, worthy of presenting. A lady, Miss F., who had also been for several years a victim of melancholia, thought when asked to sing hymns that the persons making the request were trying to force her into still deeper damnation, but never protested, although repeatedly going through the ordeal. It chancing, however, that a lady in the institution, who was very fond of this patient's singing, having lost her only brother, went to Miss F. the evening after the funeral and begged her to sing some of the old and endearing hymns. The patient said to me not long after that she had been mistaken

regarding people's intentions towards her, for it would have been impossible for Miss L. on *that occasion* to have willingly injured *her*!

These cases are capable of logical analysis, and will rouse little dissenting criticism, but in reiterating my firm belief in the possibility of a conscious but unspoken controlling force which may be exerted by the sane being over the insane, and in urging the profession to its wise employment, I am forced to allude to my knowledge of the fact that we are warned day by day by the students of physiological psychiatry not to believe in the hypermaterial forces, nor to concede that mind may influence mind without, as well as by means of, premeditated effort. Yet, although we grant that there has hitherto been no science of mind, and that recent anatomical research and experiment seem to promise a more logical basis for theories than the gratuitous suppositions upon which we have hitherto relied, are we, therefore, to conclude that the machine is all? Because a clever thinker of this school assures us that every emotion is derived either from hunger or disgust, and that all human conduct is expressible in terms of chemical affinity, has he, therefore, explained affinity or rendered it a material substance? Or will his, or any, denial of psychic forces render void the wonderful personal influence which, far more than their words or deeds, causes us to worship at the feet of the leaders of humanity? Moreover, if from the amœba has been evolved the man, and from the hunger for food an equally demonstrable hunger for righteousness, are they scientists who ignore either the man or his aspirations, or alienists if they do not understand the utmost capacity of contemporaneous humanity, no matter what the source? Although the generally accepted theory of evolution proves, as I am ready to admit, that the physical man is the creation of uncontrollable forces which he blindly obeys from hour to hour, that our vaunted free will is, in its last analysis, the strongest desire, and that our acts are determined in consequence by the alternative which seems to us potentially the most agreeable at any moment of our existence—has it explained away desire or deprived us of the opportunity to use it to fulfil our own behests? On the contrary, are not the imbecile, the child, the lunatic, educable by us to that degree that measures our capacity to awaken *their* desires for those objects of possession or conditions of existence which will insure their most perfect adaptation to their environments? But, since insanity, as has already been pointed out, is the inability to adjust the mental relation to the relation in the environment, the cause of the inability must be evident before the alienist can deal scientifically with the defect.

Omitting from consideration those cases in which the disordered mental process arises from organic lesions, I think it will be sometime

demonstrated that in this faulty adjustment it is not the thought in the majority of cases which is at fault, but the underlying emotion, "for everywhere feeling is the substance of what, when it is present, intellect is the form," because "while thought is the establishment of a relation, feeling is the occurrence of a state." More fully stated, "the physical substratum of thought is the establishment of a dynamical connection between the two discharging elements which are the physical substratum of the feeling," and it is therefore to abnormal discharges, or abnormalities in the discharging elements, that I venture to suggest we will find ourselves justified in chiefly turning our attention in future discussions of the psychical treatment of insanity. These abnormalities may be due to physical or psychical aberrations, more often, and eventually in all cases which progress far enough, to a combination of both; wherefore, in the accurate apprehension and estimation of the relative importance of these conflicting forces lies, I believe, the skill of the successful alienist. An exhausting illness, a severe mental shock, or an overwhelming grief may each induce the sense of depression, the feeling of illbeing, which the mind interprets to mean eternal damnation; in each case tonics may be useful, but there the identity of indication for psychical treatment probably ceases. I have heard of a man whose wife was most harassing, and who became insane as the result of incessant nagging, yet his physician was filled with amazement when the patient's discovery that his tormentor had run away with another man restored his reason, and naively confessed that he, the physician, had been concealing the information lest it should make the man worse!

The human brain has been well compared to a harp in which but one string perchance is out of tune, yet it destroys the harmony of all; and just as it is only the skilled and tuneful musician who can play upon the imperfect musical instrument without emphasizing and increasing the discordance, or who can detect and remedy the flaw, so it is only the skilled and humanly tuneful physician who can elicit harmonies from the unstrung harp of life, or determine where the source of discord lies. To women, whose emotional nature is so much more varied than that of men, whose instinct is confessedly so much more acute, must we look, therefore, I am persuaded, for the next advance in the psychical treatment of insanity, though it be left to men to demonstrate the physical basis of mind. For women will, with their quicker and keener sympathies, bridge the chasm of perverted feeling or thought beyond which the insane isolate themselves, more readily than men, and will perceive more easily the necessity of establishing a common emotional and mental standing ground, before arguments become of the least avail. Several times I have

heard patients say, to one woman of my acquaintance: "*You* could not have helped me if you had not believed me," in cases which others had failed to cure; although they had had an earlier and therefore better opportunity to correct morbid processes before they became fixed, and to compass the silencing of a discordant string until nature had had time to restore its proper tension. Nevertheless I believe that there are, and will always be, men as well as women, who, through their mental and moral equilibrium and capacity to draw others within the sphere of its influence, may act as direct healers to the mind diseased, and to all such I gladly submit for criticism and elucidation, the few and imperfectly expressed thoughts to which you have so kindly listened, and which I have ventured to present because I believe in their essential truth.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

HISTORY.

A disease characterized by the striking peculiarities of pneumonic fever must necessarily have attracted the attention of the disciples of our art from the very dawn of Medicine. That such was indeed the fact we know from the distinct allusions to it found in the most ancient of the writings of antiquity which have been handed down to us. It is true, however, that being comparatively ignorant of the relations existing between the clinical phenomena and the anatomical alterations of diseases, and of physical diagnosis,¹ it was simply impossible for the physician of old to accurately differentiate the various acute diseases of the lungs, yet, inasmuch as the malady under consideration is the most common—excepting ordinary bronchial catarrh—most severe and most fatal—phthisis² excepted—of these, we may infer, with much probability, that their words refer, for the greater part, to this affection.

Later, when it became the custom to occasionally continue the study of fatal cases from the bedside to the post-mortem table, the distinguishing pathological features of this disease became better known, although it is only from a comparatively recent period—the second decade of the nineteenth century—that pneumonic fever has been recognized as a separate and distinct entity, capable of being diagnosed during life and demonstrated after death.

Hippocrates³ speaks often and prominently of peripneumonia and other pulmonary affections.⁴

All the acute pectoral diseases, however, are confounded together, and some of the diagnostic and prognostic points upon which he insists are useless and trifling. For example, he pretended to be able to locate the seat and extent of the local inflammation by the characteristics of the coating upon the patient's tongue! He considered every expectoration which relieved pain of good import, but the contrary if the opposite prevailed. He also thought that the disease was caused by drinking stagnant water.⁵

Passing on four centuries to the Christian era and the time of Aretæus, Celsus and Thenison, we find that considerable progress had been made in the symptomatology, diagnosis, prognosis and treatment of this disease.

Aretæus⁶ says that the malady is characterized by high fever and oppression of the chest; with no pain if the lungs alone are affected, but if the pleura participates in the inflammation pain is not absent. The expired air is hot and the patient prefers to sit upright in bed, because in this position the dyspnœa is least. The face, and especially the cheeks, are red, the eye is lustrous, the point of the nose is elevated and the veins of the neck are prominent. The appetite is lost and the spirits are depressed. The pulse at the beginning is large, soft, very frequent and bounding. Externally the parts are moderately warm and moist, but internally they are hot and dry. The cough is generally without expectoration, but if this appears it consists of a foamy, bilious or mixed-with-blood mucus. The cases with sanguineous expectoration are the most dangerous. Should the case approach a fatal termination there comes on sleeplessness, mild delirium, coma, coldness of the extremities, blueness of the nails and smallness of the pulse. Death generally occurs on the seventh day.

In another place he speaks of an inflammatory affection marked by ardent fever, pain in the side, dyspnœa, cough, difficult expectoration of sanguineous sputæ, flushing of the cheeks, etc.

From either of these descriptions one can recognize a moderately truthful picture of pneumonic fever, although the author has evidently included in his delineation, besides this disease, both pleurisy and the severer forms of bronchitis. This writer is the first to mention the absence of pain in those cases in which the pleura is supposed to remain free from inflammation, and that death is apt to occur on the seventh day—opinions which became firmly rooted in the professional mind and have found a place in every text-book published to this day.

Thenison⁷ treated peripneumonia by means of

acute diseases of the chest. See Littre's "*Vie d'Hippocrate*" prefixed to his splendid edition of the "*Ouvrages d'Hippocrate*"

¹ *De Morb.*, Lib. ii. *De Int. Affec.*, Lib. ii.

² Which could scarcely be confounded with pneumonic fever.

³ The Hippocratic family gave to the ancient Greeks a series of seven eminent physicians. Of these the second—who flourished from 460 to 375 B. C.—was the most illustrious and was probably the author of that portion of the "*Works of Hippocrates*" which treats of the

⁴ For further information consult editions of the "*Works of Hippocrates*" edited by Adams, London, 1856; Foësius, Chouët, 1657; Kühn, Lips., 1825; Littre, Paris, 1839, and others.

⁵ *De Caus. et Sig. et Cur. Morb.*, Lib. ii, cap. i.

⁶ Quoted by Kinsman, *Ohio Med. Recorder*, June, 1880.

baths and inunctions of oil—measures which are yet found useful.

The Romans gave to medicine very little in the way of original observation, and Celsus can be viewed in no other light than as a mere compiler.⁹ As such, however, he probably faithfully reflected the opinions of his immediate predecessors and contemporaries, and his words, few as they are, have therefore considerable value in this connection.

He says that from an inflammation of the lungs there arises a vehement acute disease which the Greeks term *peripneumonia*. The whole of the lungs are affected; the symptoms being cough, expectoration of bilious or purulent matters, oppression of the chest, dyspnoea, ardent fever, protracted sleeplessness, nausea and death. He naively remarks that the disease is more dangerous than painful.

Galen, who, although a native of Pergamus, in Asia, achieved his great reputation in Rome during the latter half of the second century, and who was without doubt the greatest of the ancient medical writers, treats of *peripneumonia*,¹⁰ but has nothing to add to what has already been quoted from his predecessors.

Cœlius Aurelianus, a Numidian, who followed Galen a generation later, has given us a vivid description of pneumonic fever under the headings of *pleuritis* and *peripneumonia*.¹¹

His *pleuritis* is a disease with a high fever, severe and shooting pains in the side, light cough and dyspnoea. Expectoration, at first foamy, but soon becoming bloody and finally purulent, is generally present, although it may be absent. The patient is restless and obtains little or no sleep. If he lies upon the affected side he soon becomes fatigued, and if he attempts to lie upon the other the pain is increased. The tongue, which is at first moist, soon becomes raw and dry.

Of his *peripneumonia* he says that there is ardent fever, a flushed and glowing, although changeable, countenance, frequent and oppressed breathing, light cough with a bloody, rusty or bilious expectoration, the pulse is hard and quick, and the tongue which is at first moist and white, becomes red, raw and dry. The patient compares the oppression to the placing of a heavy weight upon the chest which presses the walls backwards. The dyspnoea is lessened if the patient assumes an upright position, but there still remains a constant desire for inhaling deeply and largely cold, fresh air. The patient is anxious, restless and sleepless, and if, perchance, he obtains some sleep it is broken by sighs and starts, and is, consequently, unrefreshing.

It is evident from the above descriptions that our author is referring to pneumonic fever, including in the first group those cases in which pain is a marked symptom and, according to the then and now prevalent opinion, accompanied by more than the ordinary amount of pleuritis, whilst in the second are found the cases attended by considerable bronchial catarrh and little pain.

The names "*pleuritis*" and "*peripneumonia*" are, however, hopelessly confounded in the works of the ancients, being often used interchangeably. This is clearly shown from the fact that *pleurisy* was said to be capable of producing cavities in the lung.¹² At a later date when greater accuracy was desired and aimed at, the older writers, when they spoke of *pleuritis*, always referred to an inflammation of the parietal portion, inasmuch as the visceral layer was not recognized as being distinct from the lung.¹³

In the sixth century we find pneumonic fever treated of by Ætius¹⁴ and Alexander Trallianus,¹⁵ physicians of great repute in their day.

Alexander's *pleuritis*¹⁶ was characterized by fever, dyspnoea, cough and lancinating pain in the side, whilst his *peripneumonia*¹⁷ premised heavy breathing, oppression, dyspnoea, a coated tongue, flushed cheeks and a very rapidly developed fever.

The Arabian physicians, Rhazes and Avicenna, who flourished in the ninth and tenth centuries, respectively, speak of the disease under consideration. The former directs particular attention to the characteristics of the pulse¹⁸ and the latter to those of the expectoration. Avicenna was the first to state that sanguineous expectoration is met with only in pneumonic fever.¹⁹

Aaron,²⁰ an Alexandrian physician of the twelfth century, also speaks of *peripneumonia* and quotes approvingly from Rhazes, but has nothing worthy of note to add to the then sum of knowledge.

It has generally been the custom for writers on the history of pneumonic fever to divide the time into two great periods; the one beginning with the era of Hippocrates and ending with that of Laennec, and the other the years subsequent to the first. I am, however, clearly of the opinion that the line of demarcation should be moved nearly two centuries backwards—to the times of Harvey,²¹ Sydenham²² and Malpighi²³—for when physicians once began to observe, think and act for themselves, instead of being bound hand and foot by tradition and the authority of the ancients, the discovery of percussion and auscultation, and all the wonderful advances recently made in this

⁹ Fox, Reynolds Syst. Med., Phila., 1880, vol. ii. p. 152.

¹⁰ Sturges, Nat. Hist. Pneumonia, London, 1876, p. 8.

¹¹ Ætlii Med. Græci, etc. Ætius was a resident of Mesopotamia.

¹² Opera Omnia, Puschmann's Edition, Wein, 1878. Alexander, of Tralles, as his name indicates, was a Greek.

¹³ See, Op. cit., Lib. vi, cap. i.

¹⁴ Ibid. Lib. v, cap. i.

¹⁵ See Cont., Lib. x, cap. i.

¹⁶ Cannon, Lib. iii, Tract. iv, cap. i.

¹⁷ See Surianum's edition of Rhazes, Lib. x, cap. i.

¹⁸ De Motu Cordis, etc., Frank., 1628. Harvey born, 1578.

¹⁹ Prax. Med. Exptm., Lips 1695. Sydenham born, 1628.

²⁰ Exercit., etc., Ed. ii, Francof. 1678. Malpighi born 1628.

⁹ De Medicinæ, Lib. iv, cap. vii.

¹⁰ Glover, Lond. Lancet, N. Y. Ed., 1851, vol. i, p. 282. See also Billings, "Jour. Am. Med. Association," Feb. 18, 1888, p. 216.

¹¹ De Loc. Affec., Lib. v, cap. iii.

¹² Acut. Morb. Lib. ii, cap. xxv-xxix.

field have followed as a natural and unavoidable sequence. Because of the immense importance of the discovery of auscultation, it might be well to divide the modern period into two subdivisions—from Sydenham to Laennec,²⁴ and from Laennec to the present. The material at hand pertaining to both these periods is so abundant that its critical analysis is impracticable, and a superficial survey of the field is all that can be attempted.

Although much had been learned regarding pneumonic fever, yet even at this comparatively late day many and various diseases of the chest were confounded together—the most illustrious leaders of professional opinion uniting in denying the possibility or desirability of making an exact differential diagnosis.

Thus Sydenham,²⁵ in treating of pneumonic fever and pleurisy as they followed the epidemic cough of 1675, did not clearly distinguish between the two maladies, and many other writers²⁶ of the sixteenth, seventeenth and eighteenth centuries plainly acknowledge the same failure.

When Cullen²⁷ speaks of pneumonia he refers to "the whole of the inflammations affecting either the viscera of the thorax or the membrane lining the interior surface of that cavity, for neither our diagnostics serve to ascertain exactly the seat of the disease, nor does the difference in the seat of the disease exhibit any considerable variation in the state of the symptoms."

The originator of the celebrated Brunonian System of Medicine²⁸ includes under the term peripneumonia pneumonic fever, pleurisy and carditis.

Pringle,²⁹ after having treated of pulmonic and pleuritic inflammations under separate headings in his earlier editions, later considered them together as one distemper, "in which the lungs are always inflamed, and often without the pleura; but the pleura never without the lungs."

Borsieri³⁰ thought pneumonic fever a double-faced disease—the one side being peripneumonia and the other pleurisy, these having the same seat and nature and only distinguishable by their symptoms, the severe and continuous pain of the one and its absence in the other being the only difference between them.

Frank³¹ considered it clear and beyond doubt that there was no difference between peripneumonia and pleuritis, and that we not only can, but must, consider them as one disease and under a single name.

Sprengel³² says that when there arises an inflammatory fever, with a severe, sharp or heavy pain in the chest, combined with a severe expectorating cough, the disease is to be called inflammation of the lungs, or of the chest, but making no distinction between pleuritis and peripneumonia.

Gregory³³ says: "There are several different names given to the diseases of the thorax, as the inflammation attacks different viscera, as the pleura, lungs, mediastinum, diaphragm or pericardium, but all these are so connected that it is difficult to make a proper distinction." He therefore treats of them *en masse*.

Richter³⁴ was of the opinion that at the bedside of the patient it was impossible to distinguish between pleuritis and peripneumonia. They are often combined in the same case, and in many instances it is difficult to say which predominates; even the autopsy not clearly proving this point.

Even Vogel³⁵ and Neumann,³⁶ so recently as 1828 and 1832, respectively, held similar opinions.

Valsalva³⁷ and his more illustrious pupil Morgagni,³⁸ however, indistinctly held that pneumonic fever and pleurisy should be studied separately, and the pathological investigations of the latter of these authors assisted greatly in placing the morbid anatomy of the disease upon a firm foundation of facts.³⁹

Auenbrugger⁴⁰ in 1761 published his epochal work on percussion, which attracted some attention at the time and was even translated into a foreign language, but it was soon forgotten, save meagre references to it by Stoll⁴¹ and Van Swieten,⁴² until rescued from oblivion by Corvisart⁴³ a third of a century later. Thus the promulgation of a wonderful discovery—one which might have revolutionized the diagnostics of the day—scarcely produced a ripple upon the placid surface of the professional stream, and can only be accounted an incident by the way. To the physician of the present day, accustomed to practice percussion in every case of thoracic disease as a matter of routine, the step in advance made by the discovery of this method of physical exploration can scarcely be appreciated, and it can only be a subject of wonderment that it was allowed to so long remain in obscurity, and was finally accepted by

²⁴ De Cur. Hom. Morb., lib. ii.

²⁵ Handb. d. Path., Leipzig, 1796, S. 347.

²⁶ Mss. Lectures in Library Med. Chir. Soc., London.

²⁷ Die Spec. Path. und Therap., Berlin, 1821, Bd. iv., S. 372.

²⁸ Handb. d. Arzneiwissenschaft., Wien., 1828., Bd. iv., S. 144.

²⁹ Krankh. d. Menschen, Berlin, 1832, Bd. i., S. 151.

³⁰ See Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Bdv., Leipzig, 1877, S. 10.

³¹ Opera., Lugd., 1742.

³² De Sed. et. Caus. Morb., Lov., 1766.

³³ See Sturges, Nat. Hist. Pneumonia, Lond., 1876, p. 3.

³⁴ Inventum Novum ex Percussione Thoracis etc., Vienn., 1761.

³⁵ Leopold Auenbrugger was born in Gratz, Styria, in 1722, and educated in Vienna, where he afterwards became physician to the Spanish hospital. Besides his immortal work on percussion he published on dysentery and insanity and wrote a drama. He died in 1800. See Ersch u. Poschet's Literatur d. Medizin, Biographie Médicale, etc.

³⁶ Rat. Med., Vienn., 1777.

³⁷ Com. Aph. Boerhaavii, lib. ii. Van Swieten was a resident of Vienna at the time Auenbrugger's book was published.

³⁸ See his translation of Auenbrugger, Paris, 1806.

²⁴ Traité de l'Auscultation Médiate, Paris, 1819.

²⁵ Works, Wallis' edition, London, 1788, vol. i., p. 330.

²⁶ Galli, De Peste et Peripneumonia, etc., Brix., 1565; Vischer, De Caus. et Diff. Adfec. Pulmonis, Tub., 1581; Pansa, Consil. Peripneumoniae, Annab., 1614; Tossius a Serra, Peripneumonia, Cur. Rat., Venet., 1618; Baglivi, Prax. Med., Roma, 1606; Stahl, Theor. Med. Ver., Halle, 1708; Boerhaave, Aphorismi, Lugd., 1721; Hoffmann, Med. Rat. Syst., Halle, 1729-40; Van Swieten, Com. Aph. Boerhaavii, Leyden, 1741; Haller, Opusc. Path., Laus., 1755; Morgagni, De Caus. et Sed. Morb., Vienna, 1761; Cleghorn, Epidem. Diseases, Minorica, Lond., 1762; Lienhard, Prax. Med., Amsterdam., 1768; Stoll, Rat. Med., Vienna, 1777; Frank, Rat. Inst. Clin., Vienna, 1797; et al.

²⁷ Prac. Physic., vol. i, chap. vi, sec. 24.

²⁸ Brown, Elements of Medicine, Portsmouth, 1803, p. 229.

²⁹ Diseases of the Army, 6th edition, London, 1768, p. 142.

³⁰ Inst. Med. Prac., vol. iv, sec. 97-100.

the medical profession with so much hesitation and caution.

With the discovery of auscultation by Laennec⁴ the history of thoracology enters upon a new and splendid era. This invaluable discovery and the revival of the practice of percussion, coupled with the time, men and circumstances which received them, led to an enthusiastic cultivation of physical diagnosis throughout the world, which has greatly extended the bounds of our knowledge in this direction, and gave thoracic pathology an impulse which continues to this day.

With the advent of this era we enter upon the Present, and the scope of this Inquiry, and the further history of pneumonic fever will be developed as we proceed.

(To be continued.)

LEGISLATIVE RESTRICTION IN MEDICAL EDUCATION AND PRACTICE.

Read before the Central Kentucky Medical Association, at Lexington, Ky., April 18, 1888.

BY GEORGE COWAN, M.D.,
OF DANVILLE, KY.

In the discharge of the duty required of me by the usage and law of this society, I propose on retiring from the chair, to occupy your time in the discussion of the subject of *Legislative Restriction in Medical Education and Practice*.

The selection of such a topic for an anniversary address, I trust will not be regarded as an inappropriate one at this juncture of events in the history of our profession. For, I doubt not you will entirely agree with me that its careful consideration is a present urgent necessity, because it involves so many very great interests of momentous and immediate importance both to the profession and the public.

It is now about ten or twelve years since the tendency to legislate anew upon this subject was revived on the part of the respective States of the Union. The inception of the enterprise was from within the profession itself, various of the State medical organizations taking the initiative, and furnishing, from time to time, whatever of momentum the movement has since acquired. It is true that, in many instances, our State legislatures have not been entirely passive in shaping this legislation; yet, it is so far as completed, mainly the work of the profession, so that whatever of success or failure may attend it, will be passed to the credit of the profession as a body. It is also true that the tendency of this legislation, has not met the wishes of the original advocates of legislative restriction in medical education and practice, and is generally unsatisfactory to the profession at large.

As regards the extent of the movement, up to

this time, we find that thirty odd States and Territories have passed laws varying very much in their requirements, and often quite inconsistent and contradictory in their application as between the individual States; yet, all agreeing in this one particular, the substitution of the state's license for the college diploma.

Hoping to correct some of the gross errors manifest in these ill-advised efforts at legislation, and, to systematise and reduce them to a uniform code of laws, which could be made of universal application throughout the Union, the American Medical Association, at its annual meeting in 1885, adopted a series of laws or a bill to that end, and the Permanent Secretary was directed to send a copy of it to each of the State societies, for their approval and recommendation to the several legislatures. It failed to secure the endorsement of these societies, and, at the annual session of the Association, which met in Chicago, in 1887, a committee was formed to draft and report another set of laws to be recommended again to the several State societies for the same purpose.

Legislative restriction of medical education and practice, such as we are now considering, is no new thing to the medical profession of this country. It is a fact of great historic importance and interest, as may be learned from an address of Dr. N. S. Davis, delivered before the American Association of Medical Editors,⁵ that the majority of the original thirteen States had legislated upon this subject during the first decade of the present century. This legislation, we learn from this able address, took the shape of legal enactments of incorporation, conferring upon the State medical societies and their auxiliaries, "the power, and enjoined the duty of appointing State Boards of Examiners (or 'Boards of Censors,' as these bodies came finally to be called), for the special work of examining and determining the qualifications of applicants for admission into the medical profession. And at the commencement of these organizations, during the first decade of the present century, almost the entire body of men who entered the profession, entered through examination of one of these 'Boards of Censors.'" We are told also in this address, that there was one other mode of obtaining a license and entering upon the practice of medicine at that time. "The different States in granting charters for medical schools, endowed these schools, with a few exceptions, with the privilege of examining such students as had complied with certain stated regulations, and of issuing diplomas to them," which diplomas were considered as of equivalent force and authority as the State's license.

Of the success of these "Boards of Censors," Dr. Davis further states in this same address that, "they produced all of the beneficial effects expected of them, and that perhaps in no country

⁴ *Traité de l'Auscultation Médiate*, Paris, 1819.

⁵ At Cleveland, June 3, 1883.

at any period of time, has a more rapid degree of progress been made in the educational, social, and practical interests of our profession than took place during the first quarter of the present century in our country."

In this way, at a very early day, and in a very absolute and complete manner, did the State medical organizations secure the control of medical education and practice in this country.

It proved to be, however, only a very short-lived lease of power. The public, then as now, ever jealous of the appearance on their statute books of any sort of class-legislation, soon arrived at the conclusion that these laws had organized the regular members of the medical profession into a powerful guild-association or trades-union, the sole end and aim of which was to secure for themselves a lucrative monopoly. These laws were, therefore, quickly repealed, or rapidly fell into neglect and disuse, in consequence of the current of popular feeling which had set in against them.

These changes took place during the decade 1830-40. Since this time until the recent revival of legislation on this subject, already mentioned, the medical colleges have remained in undisputed possession of the business of furnishing to the public the credentials of its medical advisers, and the license which the diploma confers to practice medicine.

Following closely upon the repeal and decadence of the laws creating these boards of censors, was the organization of the American Medical Association, and the adoption of its incomparable Code of Ethics. This was the natural and logical outcome of the loss of power and influence sustained by the repeal of the State laws which had created the "Boards of Censors." It was simply a necessary effort of self-preservation upon the part of the profession to re-assert and maintain some sort of self-control and discipline over itself as a body. The alliance of the profession with the State authority through means of these "Boards of Censors" having been broken up, the way was open, and the necessity made clear and imperative for just such an organization as was effected in the spring of 1845, namely: "The American Medical Association." The declared purposes of this organization at the very outset of its career, and those which it has all the while steadily kept in view and endeavored to accomplish, were: "To give frequent, united and emphatic expression to the views and aims of the medical profession in this country; to supply more efficient means than have hitherto been available for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor, and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of

medical men; and for exciting and encouraging emulation and concert of action among them."

These lofty and worthy ends, this Association proposed to obtain by force of an enlightened and correctly-guided public sentiment. And for forty-two years, discarding all support from or coalition with the State or general governments, it "has pursued the even tenor of its way," quietly and very successfully working out to its fulfillment, the mission so courageously undertaken. And it is not by any means probable that it could have accomplished better or larger results, had the Association been bolstered up in its work by the fostering care of State patronage, so liberally dealt out to the State societies and boards of censors in the beginning of the century. I repeat, that it has faithfully and truly redeemed as far as was practicable, every one of its promises to the profession and to the public. Particularly is this noticeable in the elevation of the standard of medical education, and in the increased power of control and discipline of the profession as a guild or a society compact. Through the influence brought to bear by this Association upon the best medical schools of the country, the three-years graded course of didactic lectures, with fuller and better clinical teaching, has been inaugurated; the curriculum of study has been greatly enlarged and improved, and the conditions, for graduation rendered more exacting and absolute in their requirements. The difference in all these respects in the best schools of this country, shows a very marked contrast between the present time and forty years ago.

This short review of the history of our subject teaches, I think, most emphatically that the improved status of medical education and practice during the two epochs which have been contrasted has originated, as all real and true progress must, from within the profession itself. The cultivation and development of scientific medicine is governed by fixed laws or conditions, and takes place ordinarily either with or without the help of political patronage, and oftentimes in spite of hostile or obstructive legislation upon the part of the State. It cannot be denied, however, that there are certain conditions, which will be referred to hereafter, under which political or State aid might become a very valuable handmaiden to medical science.

If any action is taken upon this subject at the approaching annual meeting of the Association it will doubtless be such as in effect will either supplement or supplant the work of the medical profession in its capacity as an organized body; or it will place the matter of legal restriction of medical education and practice wholly under the control of the Association.

There are most serious difficulties in the way of the adoption of either of these plans. In the first place it is manifestly impossible to form a

permanent and proper sort of alliance between a voluntary association and the State, either body bearing the relation to the other as a supplemental part of a third body composed of the two. The State governments can, and doubtless will, lend a somewhat respectful attention to suggestions made by the Association, they may adopt some of the ideas advanced in regard to the framing of laws; and even recommendations of the officials to execute these may in a few instances be received favorably. But the final control over the whole matter must of necessity remain absolutely and wholly in the hands of the State legislatures. It can scarcely be contemplated that the Association will be able to regain and permanently exercise the authority once wielded by the boards of censors. To secure the enactment of restriction in medical education and practice, and also the execution of it, is a monopoly greater than the American people will be likely to grant. And yet this seems to be the expectation and hope of the advocates of these restrictive methods of legislation.

For the sake of argument we may allow that it is feasible to secure such absolute power, and that the Association might never, or during a long period of time, be disturbed in the exercise and enjoyment of the power and privileges of such a monopoly. The immediate and inevitable result, however, would be to introduce political issues and partisan strife into all of our medical societies, which would have become, almost at once, part and parcel of the political machinery of the country. It would be impossible for them to retain and exercise such absolute power, unless they were closely allied with the dominant party of the State. Empiricism and political demagoguery would then strike hands together, and quickly win a triumph over scientific medicine, and thus some of the valuable and dearly bought experiences which the profession had acquired in its alliance with political power during the first quarter of the century will have been lost.

It is true that in the State of Virginia, and possibly in two or three others, the State medical societies have been empowered to make out a list of names from which the Governor *must make his selections* in the appointment of the State Board of Examiners. But it is hardly supposable that these societies can enjoy for any great length of time such a prerogative—especially if exercised in a fearless and independent spirit in behalf of scientific medicine, and without reference to the interests of political partisan organizations.

On the other hand, in the large majority of the States and Territories which have legislated on this subject recently, the appointments to the boards of examiners are made *immediately* by the Governor, unrestrained by any such dictatorial influences; and, in one State, Arkansas, the Justices of the Peace of each county may exercise

this important prerogative, each county being entitled to a Medical Board which may examine and license applicants.

There is, as might have been expected, great contrariety and incongruity in all this recent legislation. The laws of Minnesota and California in regard to medical practice, however, are so very peculiar and unique that it would be gross injustice to the full discussion of our subject to pass them by unmentioned. Among all of the States mentioned, Minnesota enjoys the bad pre-eminence of the championship of that miserable craze and cheat of the 19th century—Homeopathy. The laws of that State specifically require that *at least two* of the nine members constituting the State Board of Examiners shall be of these self-styled medical men calling themselves homeopaths; while it entirely fails to define the medical status, or even the occupation, of the remaining seven members in any way whatever. It would, therefore, be entirely competent for the State of Minnesota to have a board consisting exclusively of partisans of this "*pathy*." But, in whatever way our fancy might be indulged in the make-up of the board under the existing laws of Minnesota, there would be no incongruity, no mixing up of strange bed-fellows, provided representatives of scientific medicine are not appointed for service with such boards. California, on the other hand, to avoid the impropriety doubtless of thus putting such unsuitable bed-fellows together, has very considerably arranged for three entirely distinct and separate boards, which are styled respectively, the "Homeopathic," "Eclectic," and "Regular" boards. Each board is entirely independent of the other, so that applicants failing to pass either one, can in turn if need be, take their chances to pass one of the remaining two. In this way every applicant will almost surely pass, and all the possible compensation for examining and licensing applicants would be made available to the boards.

Now, while the legislation in the other States may not be so objectionable, may we not with equal certainty expect to find in the boards almost as strange and as improper an admixture of empirics and of the representatives of scientific medicine? And of the latter class who will consent to serve in such a mixed board, may we hope with any degree of assurance to find the names of the best qualified and most worthy representatives of our profession, as there should be? Such men would necessarily be excluded from these boards.

From this field of observation of the relations of the medical profession to the political power of the land, we may very profitably turn to a wider and more extensive scope of observation—the relationship which the General Government has sustained to it. It is well known that the General Government has never encouraged the study and investigation of scientific medicine. On the con-

trary, it has done much to prevent and discourage it, but not, as I believe, as it is sometimes alleged, with consciously hostile purpose. The colossal fortunes which the manufacturers of patent medicines have made are, we all know, due directly to the protection afforded under the patent-right law, of the United States; and this discrimination in favor of empiricism and quackery is sometimes pointed to as evidence of an unfriendly sentiment towards scientific medicine. An additional evidence of this spirit on the part of the General Government is thought to manifest itself in the heavy Custom-house duty laid upon medical books, and surgical instruments and apparatus. In the first instance the General Government does seem to have become the fostering guardian of empiricism. While in the latter instance, the burdensome tariff put upon the necessary means and appliances for the study and practice of scientific medicine, by the General Government, appears to many as both an embargo laid upon the cultivation and advancement of medical science, and as a premium upon professional ignorance and inefficiency.

These evidences of a lack of interest on the part of those in civil authority in this country, are, however, only such in appearance. It would be wrong to construe them as decisive proofs of an inadequate appreciation of the regard and honor due our profession for the benefits conferred by it upon the public. The true and philosophic explanation of this apparent indifference to the cause of scientific medicine on the part of our rulers is to be found, strange as it may appear, in the character of our government, and the political isolation of our country arising out of its geographical position. Our theory of government is incompatible with any unnecessary restriction of the personal liberty of the citizen. Its design is to develop the habit and the capacity of independence in thought and action upon the part of every one. Therefore, in the choice of his medical adviser in sickness, as in the selection of the occupation he shall follow, or the religion he shall embrace, or the vote he shall cast, it will be equally difficult for the State to claim and exercise as its right, any controlling influence whatever, and there is nothing to found such a claim upon, except the assumption of too great ignorance and incompetency in these matters upon the part of the people. Therefore, however ignorantly the public may act in the exercise of these inalienable rights, as they have always been regarded, it is idle to suppose they will be surrendered at the request of the American Medical Association to do so. All efforts to control the citizen in such matters will prove in the end utterly futile.

And, so far as any great National interests are concerned, there is no really urgent need for any such restrictive interference with individual rights. Our geographical isolation constitutes our main

National protection against becoming involved in foreign wars; and therefore numerical strength of population, as an element of military power, does not figure largely in the estimate of the resources necessary for National independence. Hence the different values put upon human life and health in the old countries of Europe, as compared with their valuation in this country. The large losses of life yearly incurred among us from criminal accidents, wilful murder, from preventable causes of disease, and from incompetent medical service for the public, cannot seriously affect our war-making power. This fact fully explains the apparent negligence of our country and rulers as to the lives and health of the people; and, as contrasted with the different treatment of this subject by the monarchical powers of Europe, they seem to be very culpable indeed. It cannot, therefore, be very apparent, either to the medical profession or to the American politician, that the restriction of medical education and practice by legal enactments is a necessary measure of State policy.

Very differently, however, does this problem confront the ruling powers of Europe. With them, the study of the problem of vital statistics is an absorbing and an all-important one. It is a dire necessity of existence and perpetuity with each one of these countries, to maintain the fighting strength of the nation at the highest possible maximum of its capacity. This it is which gives character to these monarchical, or so-called paternal governments in their relation to the education, and the control of the service and occupation of their people. It is a restraining and moulding influence, which surrounds the subject from the cradle to the grave, like the atmosphere which he breathes. The accouchement which gives him birth, and his vaccination and baptism, are provided for by government officials, each in quick succession. The subject is now ready to be ticketed and pigeon-holed in the archives of the government, which thenceforward is ceaseless and relentless in the exercise of this so-called paternal care, the ultimate end or object of which is military service for the State, if need be, during all the years of his active manhood.

To such an extent is this coddling and caring for the lives of individuals carried, that an American is often amused and annoyed by turns, while traveling in Europe, when he finds himself carefully locked in and guarded to prevent his falling overboard and thus killing himself while the train is in motion. To us, this precaution and anxious care looks very absurd, and it is referred to only for the purpose of illustrating the very great difference in the estimate which is necessarily put upon human life on the two different continents of the civilized world; and also the diverse relations which the State must, as a logical consequence, assume in its relation to the control of medical education and practice.

In addition to the necessary differences growing out of our geographical and political isolation, must be considered our theory of self-government, as it will bear upon the discussion of our subject when it is fully and finally presented to the public. The average voter, while he may be incompetent to make the wisest choice for himself in the selection of his medical adviser, is not ready to acknowledge his incompetency and have a guardian appointed by law, who shall think and act for him in this matter. And just here, there is a fatal fallacy in the arguments of the advocates of these restrictions upon private rights. They seem to have lost sight of the fact that ours is, to use a popular phraseology, "a government of the people, by the people, for the people," and that the State Board of Examiners must ultimately represent the ideas, whatever they may be, of the people themselves. They forget that the stream can never rise to a higher level than its source; and that legislative restriction of medical education and practice will be attended with only such results, good or bad, as the intelligent or misguided wishes of the laity may determine; and that if the laity are capable of making sufficiently wise laws in regard to this interest, and can secure their faithful execution, they then can have no need of the protective guardianship of such laws and public officials. And on the other hand, if they are not thus capable, the real interests of scientific medicine cannot be promoted by any sort of alliance between the medical profession as a body, and the political partisan organizations of this country.

The movement to secure this restrictive control of medical education and practice is one of imitation; the idea having been imported from Europe, like too many of our ideas of reform in manners and education, irrespective of their suitability or adaptation to any special needs of our country or people. The American medical profession can do better, we might hope, than to follow in the wake of the servile fashion of the day, of adopting ideas merely because they happen to be transatlantic. The American Medical Association, in the declaration of the purposes and ends of its organization, to which reference has been already made, has clearly and definitely marked out the lines of action upon which the profession, in my judgment, can, as a body separated from all political control, succeed best in promoting its highest interests.

This National Association of the profession, widely extended and admirable as it is in its organization and equipment for active work, has by no means been completed or made perfect. Unfortunately, in recent years, the harmony and amity of its councils have been unnecessarily disturbed, and its usefulness thereby somewhat endangered. Certain disorganizing tendencies have recently made their appearance, which might have

been avoided; and, as it is possible yet to avert the threatened danger, I trust I may be allowed to speak out plainly and say that I refer to the "New Code controversy." It would be useless and presumptuous in such an address to refer to it, unless to offer a remedy for its cure. To my mind, there is a very simple and easy way out of the difficulty. It is this: The so-called "consultation" which takes place between the general practitioner and specialist, is in reality no consultation whatever in the proper and fair interpretation of the term as contained in the law of the Code, regulating consultations. The transaction is, more properly speaking, the surrender of a patient on the part of the general practitioner into the hands of the specialist, whom the former, to be consistent, must regard as having better special qualifications to treat. In the very nature of the transaction, there cannot be any such discussion of the case as is contemplated in the law of the Code regarding consultations. If this view of the real nature of a consultation is correct, the claims of the "New Code party" might be allowed, and differences harmonized. This tendency towards disorganization having been successfully repressed, if then the entire American medical profession could be properly organized, in every county throughout the Union, into auxiliary associations of the American Medical Association, there could be no need of any outside interference on the part of the State in carrying out the great mission of this Association. It would then be able to give such "*frequent, united, and emphatic*" expression of the views of the profession" as would enlighten and direct "public opinion in regard to the duties, responsibilities, and requirements of medical men," beyond anything which could be hoped for from medical education bills as executed by the average State Board examination of applicants. A National organization, harmonious and united, and embracing the entire medical profession of the country found worthy of membership, would be able to evoke concert of action on the part of the profession and laity, and voluntary coöperative efforts for "supplying more efficient means than have hitherto been available for cultivating medical knowledge," and "for elevating the standard of medical education." By means of such a union of forces and interests, a great advance might be made at once in a negative way, in clearing out of the way of onward progress the legislative obstructions of the United States tariff law, and protection afforded to patent medicines, to which allusion has been already made. These results accomplished, there is no reason why some of the enormous idle wealth of the Nation, both private and public, should not be made available in the endowment of many of our best schools of medical education, having fellowships for the purpose of special study and investigation in the va-

rious departments of the science of medicine. If a sufficient number of our best schools were thus liberally endowed, to render them independent of the patronage of pupils, a much higher standard of medical education could be held up to invite and encourage among all the schools and pupils of the country a higher degree of honorable rivalry, in the excellence of their degrees, than could be expected of the State Board of Medical Examiners, whose conditions or terms of license would be leveled down to a horizontal line, which line would necessarily be the minimum or average attainable qualifications of applicants.

There are now in active operation a few of the older schools in this country whose conditions of graduation are, and for many years have been, unattainable by such applicants as could only pass the State Board examinations. This would tend to impair the growing appreciation and value placed upon the diplomas from these schools by both the laity and the medical profession, inasmuch as, under the new *régime*, the State's license is to take the place of the college diploma, both as a credential of qualification and as an authoritative commission for practice. By placing the degrees of such schools in a subordinate relation to the State's license, to some extent their moral influence over the profession will be impaired, and the high ideals which they had heretofore held up for exciting emulation on the part of other schools of subordinate rank, and among the individual members of the profession, will to some extent be withdrawn.

In as brief space as possible, I have thus endeavored to present and discuss the principal propositions contained in the question which I have adopted as a theme for this address. It is one which, it is to be hoped, will receive a painstaking and thorough investigation upon the part of the profession, and that radical changes will not be effected without sufficient deliberation. A hurried and partial discussion of it by the profession may result in that sort of legislation which so often proves to be a sharp two-edged piece of cutlery in the hands of the hapless party using it, and for whose defense it was intended.

From these various propositions, as argued, I would respectfully submit the following conclusions:

1. Legislative restriction of medical education and practice in the first quarter of this century, as established by the friends and exponents of legitimate medicine, was a failure, and the causes by which this failure was brought about, are still in active operation.

2. The present movement can hardly hope to secure the restoration of such absolute control of legislation now as was enjoyed in the epoch of history just mentioned. Any general system of legislation that can now be secured must, in all likelihood, be so framed as to provide for examin-

ing boards composed not only of the regular profession, but of all the popular crazes, or "isms" and "pathies" of the day. These will inevitably demand and obtain full recognition in the appointments to these boards. To this it is to be hoped the American medical profession is not ready to give its consent.

3. The doctrine of "the survival of the fittest," as a test of superiority, is one which legitimate or scientific medicine should be ready and willing to have applied to itself and its spurious counterfeits. No considerations of self-interest, or mawkish sentimentality about "protecting the masses" from the consequences of their "lack of wisdom" ought to be interposed. The people themselves need to learn the lesson of "judging of the tree by its fruits."

4. Finally. The completion of the organization of the National Association *as originally designed*, and a more perfect unanimity and harmony of all its elements, are the pressing needs of the hour. These good ends accomplished, it could, as a voluntary and independent organization, exert an influence in elevating the standard of medical education and practice, in my humble judgment, not possible of attainment in an alliance with political powers, such as the advocates of the present movement are seeking for it.

Before taking my seat permit me to thank you, gentlemen of the Central Kentucky Medical Association, for the honor and pleasure which I have enjoyed in the discharge of the duties of President of this Society. I can offer you no better return than to wish you a continuance of your past honorable and successful record as a Society, auxiliary to the American Medical Association.

INFANTILE CONVULSIONS.

Read by invitation to the McDowell Medical Society: Annual Meeting at Henderson, Ky., November, 1888

BY I. N. LOVE, M.D.,

ST. LOUIS, MO.

The subject of infantile convulsions is not a trifling one, as one of the first stories I heard related after my entrance into the profession regarding one of the numerous "Doc. Sifers" of the early times would indicate. This traditional boaster announced that, if he could only turn any case he was called to into "fits" he was safe, as he was "h—I on fits."

The majority of cases to which the young practitioner is called are emergencies, and a good percentage of these are the petted darlings of the household in the struggling spasm. It would be superfluous on my part to describe an attack of eclampsia. A simple seizure does not differ from epilepsy, except that the latter is characterized by its chronic course, and sudden recurrence and freedom from fever. It goes without saying that

a convulsion is in itself not a disease, but a symptom of a pathological condition in the organism, and yet that this fact is often overlooked is evidenced by the mortality records of the city of St. Louis, which are made up from the death certificates furnished the Health Department by the legal practitioners of the city, all of whom, under the law, are graduates of Medical Colleges.

In 1886, 441 infants were reported as dying from "convulsions," and in 1887, the number was 437.

It seems to me clear that our first duty is to determine the cause of the paroxysm, and if possible, to remove it, instituting at the same time, efforts towards calming the agitation. Intelligent treatment certainly demands the ascertainment of the cause first, if possible, in spite of the fact that Hensch, the great authority of Berlin, in his text-book, based upon thirty-seven years of metropolitan practice, says: "If you are called to a case of this kind and find the child in convulsions, no time is left to enter carefully into the cause of the attack, and you must immediately begin treatment!" After announcing free and almost careless administration of chloroform (even leaving it to nurses), as being the sheet anchor, he says: "As soon as the convulsions have ceased, the cause of the disease must be taken into consideration."

The fallacy of this statement can best be illustrated by the following case: Joseph M., æt. 18 months, September, 1883, at 3 P.M., taken with spasm; physician summoned, who administered chloroform during continuance of attack of more than half an hour, at the end of which time the child became quiet, and bromide and chloral were ordered to be given to prevent a recurrence. Medical attendant left, assuring family that the child was all right, but that he would return that night and visit it. One half hour later convulsions returned with increased violence and on being summoned I at once placed my thermometer in the rectum and discovered a temperature of 107. A cool bath promptly relieved the spasm, having reduced the temperature; the child remained asleep and tranquil for two hours. The nervous symptoms again pointed towards spasm; the thermometer in the rectum marked 105; another bath relieved the trouble. The case developed into a malignant scarlet fever and death was the result.

Whatever be the cause, whether light or serious, it should be removed as promptly as possible. The chronic tendency to convulsions known as epilepsy has much of habit in it; each succeeding fit that comes prepares the brain for another, and the trivial convulsion, whether caused by indigestion, dentition, fright, excitement or high temperature, unchecked at its first onset, may develop the chronic epileptic or the idiot.

Heredity is a very important factor.

Some children, on the slightest provocation, may be thrown into a convulsion; with such the parents have been, as a rule, similarly affected. Bonchut relates the history of a family of ten persons, all of whom suffered in their youth from convulsions. One girl of this family married, gave birth to ten children, and nine of these suffered from eclampsia.¹

The majority of convulsions of infantile life are of reflex origin, owing, no doubt, to the predominance of the spinal over the cerebral system in early life. As the brain develops and becomes better organized, increasing in size and power, and diminishing in friability and sensitiveness, convulsions become more rare in occurrence.

A brief reference to the various disturbances entering into the causation of infantile eclampsia is in order.

The first essential is the neurotic diathesis; a weakened nervous system and consequent increase of irritability dependent on loss of blood, malnutrition, expressed by anæmia, loss of flesh, rickets, malformation and defective ossification; or the diathesis may be due to inheritance from an hysterical, highly nervous or epileptic mother, or a drunken father, or from tuberculous parents, whose children are imperfect in their development and nutrition of nerve tissue.

A complete knowledge of family history, with proper effort exerted to remedy this defective equipment, in the way of good, fresh, pure air, sunshine, tranquil, unexcitable life, with judicious training and moral restraint, will accomplish much, and we may be rewarded with a superb specimen of physical, mental and moral manhood in the end. It is no doubt true that in many cases this treatment of our little patient, as Oliver Wendell Holmes would say, should have been begun a century before; yet, with constant and increasing watchfulness, we may accomplish much, though we start late.

With other conditions favorable, teething with angry, engorged gums, and the frequent accompaniment of disturbed digestion, may be a potent cause of convulsions. A free incision of the swollen gum may be all-sufficient, but if the irritation be great, the careful bathing of the gum with ice or a 5 per cent. solution of muriate of cocaine will be desirable.

One of the few positions taken by my esteemed friend, Dr. J. Lewis Smith, of New York—whom we all love and honor—which I cannot accept, is that wherein he decries the importance of the teething process.

One who has in later life, in spite of a well developed nervous system, suffered from the acute irritation of an erupting wisdom tooth, can best realize that cutting teeth is no child's play to the delicate and sensitive baby.

Gorging the stomach with improper food has

been known to completely demoralize a healthy adult. The effect upon the sympathetic nervous system of a little one is pronounced, the means of relief obvious; emesis; enemata (of a drachm of warm glycerine); calomel purge; aids to digestion; careful selection and limitation of food. Infants should be guarded against constipation, and to this end nothing surpasses the following:

R. Tr. nucis vom	5ss.
Tr. belladonna	gtt xv.
Aloin	gr. ss.
Alcohol	ʒi.
Elix. lacto-peptin	ʒi.
Glycerine	ʒiij.
Syr. simpl.	ʒss.

Sig. Teaspoonful at bedtime or, if need be, twice daily.

No doubt the cases of convulsions referred to the anger or emotional excitement of the mother or wet-nurse are due to indigestion occasioned by the change in the milk nursed.

Worms are charged with being a frequent cause of eclampsia, but the testimony of Hensch is to the effect that he had never seen a case which could with certainty be traced to worms.

My own observation, while by no means as extensive, corresponds with this writer.

Intestinal worms are a reality, however, and anthelmintics should not be ignored.

High temperature occasioned by the initiatory stages of the eruptive fevers, pneumonia, pleurisy, enteritis, meningitis and malarial or typhoid fever, is a frequent cause of convulsions, but this can be promptly ascertained by the use of the thermometer, and after which the course to pursue is well defined. Not the traditional bath of mustard and hot water, but the cooling bath and possibly the wet pack. We should put out the fire, not feed it. In this connection I recall two cases, reference to one of which will be sufficient:

M. A., æt. 3, December 24 coasted with nurse entire afternoon, and the pleasure was rudely terminated by the child being terribly frightened by the sled being permitted to carry her under a bridge which was dark and forbidding. She was put to bed in the regular way, having eaten an unusually light supper, in a room adjoining the mother's, with light turned down. At 9 o'clock mother heard child breathing stertorously, and discovered her in convulsions, her skin very hot, face red and flushed. The physician summoned, put her into an intensely hot bath with mustard and renewed the water time and again, as the convulsions lasted over an hour and a half, and then ceased, the attendant announcing to parents that she was all right, as he had stopped the convulsions; not realizing that the muscular contractility was exhausted, and hence the stoppage of spasms.

On entering I found that no history had been elicited, no temperature taken, and I soon discov-

ered that the thermometer registered 109° Fahrenheit, and when I informed the doctor that, in my judgment, the child would die before morning, he would not believe it. The family were cruelly awakened from their false hopes and the child lived but a few hours.

I am free to say that, in the majority of cases, I think the hot mustard bath an injury rather than a benefit. Every child in convulsions should be at once stripped, and whatever else be done, the thermometer should be at once used, preferably in the rectum.

Having eliminated high temperature, indigestion, worms (?), teething, the possibility of irritation being caused by foreign bodies being introduced into the entrances of the various canals, should be remembered. The ear should be examined, not only for foreign bodies, but also for possible interior inflammation. A recent history of scarlet fever may develop suppression of urine and uræmia as the trouble. Remembering that tubercular meningitis (according to high authorities) is a most frequent cause of infant mortality, it should not be lost sight of; indeed, I think meningeal tubercle a frequent cause of convulsions in ill-nourished children and, did time permit, I would cite several clinical illustrations from my case-book. I am firmly convinced that the post-mortem evidences would favor the idea that many more poorly fed babies die from tubercle in the brain than we imagine.

The relation between an elongated, narrow, adherent prepuce, with the consequent inflammatory disturbance dependent upon accumulated secretions, and reflex convulsions, should be recalled to mind and, if the conditions demand, circumcision should be promptly performed.

Among obscure causes of well defined infantile convulsions which may be overlooked, there occurred under my observation the case of a two months' child which had been banefully affected by belladonna carelessly applied, in the shape of belladonna ointment to the breast of the mother by the nurse without the knowledge of the physician.

As a very unusual cause of fatal eclampsia, I recall the bottle-fed infant of a morphine eating mother which I innocently, but ignorantly, permitted to die in convulsions occasioned by cerebral disturbances which might have been relieved by the administration of the proper amount of the drug necessary to meet the demands of the morphine habit which it had inherited.

Undoubtedly the congestion occasioned by a malarial seizure is a frequent cause of convulsions, and in plethoric children we should not lose sight of the value of leeching over the temples and behind the ears.

I desire to emphasize the following points:

1. We must not lose sight of the fact that a convulsion is only a symptom and not a disease.

We must promptly determine the cause and then intelligently and energetically eliminate it.

2. We can probably classify the majority of cases of infantile convulsions as being caused by ill-fed nerve centers (rachitics and victims of tuberculosis), reflex irritations and cerebro-spinal engorgements and congestions, dependent upon the high temperature incident to the poisons of malaria, the infectious diseases and narcotics.

3. As we can make a triple classification in the etiology, it follows that we should have a similar division in the matter of treatment, and succinctly stated, we may designate the latter as, (a) nutritive and constructive, (b) a removal of all irritation from the sympathetic system; antiphlogistic, eliminative, cooling and sedative.

4. While calming the fears of the agonized parent whose child is taken with a spasm, by assurances that an infant rarely dies in this manner and causes the most insignificant sometimes occasion the disturbance, we should not fail to impress them with the fact that it is a serious matter, that the best possible way to treat the convulsive diathesis is a perfect hygienic regimen, prevention by good food, proper clothing, fresh air and sunshine, plenty of sleep and avoidance of all excitement.

5. In discovering a child in an eclamptic paroxysm no one article is more essential than a well tested thermometer (it being practically the doctor's sixth sense, which enables him to go far toward making a diagnosis), and the only proper place for locating it in ascertaining the degree of fever is in the rectum, leaving it *in situ* not less than three minutes.

6. For the prompt quelling of a spasm, chloroform by inhalation is a most valuable remedy, but it should be used carefully and not too early, as it may serve as an agent to mask the true condition of the patient, the hiding of the danger signal kindly thrown out by Dame Nature.

7. In the cooling bath we have a prompt and potent agent for quelling the riotous condition of the cerebro-spinal system. Not the sudden ice-cold bath, that borders on the brutal, but water in the beginning about the temperature of the patient and gradually reduced to 70° or 60° Fahrenheit, and possibly lower if the indications call for it.

8. In acetanilid I am sure we have a most valuable remedy for the relief and prevention of convulsions. Clinical experience for one year justifies the conclusion. The drug is rapid, usually beginning to manifest itself within an hour, and not infrequently within twenty minutes; its full effect reached in four hours.

Pulse and respiration are slowed, arterial tension rises, diuresis and diaphoresis occur, pain is relieved and sleep usually ensues. No very great amount of depression follows if given carefully, but an exanthematous rash now and then accompanies its administration.

In confirmation of my own experience of its value in the convulsive diseases, I note the fact that Dr. H. H. Moyer, in the *London Medical Recorder*, of August 20, 1888, reports favorably on its use in epilepsy, in 5 grain doses, three times daily.

MEDICAL PROGRESS.

CALATRAVENO: ALIMENTATION FOR CHILDREN WHEN LACTATION IS DEFECTIVE. (*El Prog. Gin. y Ped.*, October 10, 1888.)

The author's paper was read before the Pediatric Section of the National Gynecological Congress recently held at Madrid, his conclusions being the following:

1. The alimentation of children during the first period of life is the greatest problem in pediatrics. According as the nutrition is good or bad do we obtain modifications of temperament and character, healthy and robust children or the opposite, and such as will be useful or otherwise to the community.

2. A bad alimentary regimen, and the abuse of milk and farinaceous foods, result in malnutrition and death, with the appearance of the various symptoms which have been designated under the term *athrepsia* by Parrot.

3. No means of alimentation should be substituted for mother's milk during the first period of life. Mothers owe this duty to themselves not less than to their children, that they should nurse them, if possible. Those who have nursed their children are less susceptible to uterine and ovarian troubles than those who have not.

4. It is the duty of the physician to decide, in the families in which he is an attendant, what women are capable of nursing their children, and what ones are incapable, on account of debility or disease.

5. The best substitute for the mother's breast is that of a wet-nurse residing in the home with the child. But the antecedents of the wet-nurse as to syphilis, alcoholism, and scrofula must be clearly ascertained.

6. The nursing-bottle should be used if mother's breast and wet-nurse fail, but it must be used with the greatest care, absolute cleanliness and sweetness being indispensable, and only such mixtures should be used in it as will be entirely suitable and nutritious.

7. Asses' milk is most suitable if animal milk must be used; goats' and cows' milk may be used if the former cannot be obtained, being properly diluted with farinaceous food of a proper character during the first few months of their use.—*Archives of Pediatrics*.

THE NEW ANTISEPTIC, CREOLINE.—Creoline

in solution of 5 to 100 possesses the property of causing the rapid disappearance of the odor from foul ulcers and gangrenous wounds, also the disagreeable odor from epitheliomata of the uterus. This substance is an antizymotic and microbicide, and it has been found to arrest the development of bacteria. The solution of liquid creoline, 5 to 100, is more active than the "liquor of Van Swieten" or the solution of carbolic acid of the same strength. It has been shown by experiment that septicæmia of intra-uterine origin is ameliorated by washing the cavity with creoline solution, the temperature is lowered and the febrile symptoms disappear, even in cases where carbolic acid and corrosive sublimate have failed.

Under the influence of creoline, in torpid wounds, the fungus granulations receive a veritable stroke of the whip (*coup de fouet*). It increases the activity of the separation of sloughs and eschars more quickly than any other antiseptic. In support of this conclusion the authors (Tzonciu and Georgesco) cite a case of disarticulation of the scapulo-humeral joint, from a railway accident, where there was great tearing of the skin and fibrous textures of the joint, but which healed on the sixteenth day; and another case where Alexander's operation of shortening the round ligaments was performed, in which there were numerous varicose veins. This operation was followed by sloughing of the wound, but the condition of the wound was modified by the substitution of creoline solution for that of carbolic acid, which had been used since the operation.

In open (compound) fractures, or in wounds of the cavities, this agent has been very successful.

The solution of creoline of 5 to 100 gives effects much superior to those resulting from the employment of iodoform or iodol, in the treatment of ulcers and chancres.

Creoline when used internally has no toxic effect in moderate doses. A patient has taken 50 centigrams a day for several days without inconvenience. In a case of chronic enteritis, Thimco has administered 50 centig. a day for four days, and the patient recovered. This substance, then, is indicated wherever an antiseptic for the alimentary canal is required.—*Archives Roumaines, de Médecine et de Chirurgie*.

STRYCHNINE AS AN ANTIDOTE IN NARCOTIC POISONING.—DR. G. A. GIBSON, in *The Practitioner* for December, 1888, recommends a change in the treatment for narcotic poisoning as given in the text-books. The chief indications, he says, are, first, to remove any of the poison that is within reach, by siphon tube or emesis, and, next, to keep the vital centers in a state of activity, while at the same time doing nothing that can in any way cause exhaustion of any part of the system. The current methods of keeping the patient

awake are reviewed and that of enforced walking condemned as wearing on the vital powers. Keeping the patient in a horizontal position, the respiration is to be carefully watched and if there should be the least sign of irregularity or shallowness or inequality in the breathing, $\frac{1}{100}$ or $\frac{1}{50}$ of a grain of sulphate of strychnine should be administered subcutaneously and may be repeated, at intervals of an hour, two or three times. Danger from failure of the respiratory centers caused by general anaesthetics is also met by the strychnine treatment.

QUININE IN THE EARLY STAGE OF CROUP.—

The story is told of an old practitioner who was exceptionally successful in the treatment of this malady (croup), and people who heard of his wonderful success travelled long distances to purchase the magic pills, which, it is said, were nothing more than ordinary two-grain quinine pills. In the early stages of croup, say in a child from 2 to 5 years of age, a single two-grain quinine pill given when it is gasping for breath at about 2 o'clock in the morning, will be followed almost immediately by relief. In the course of fifteen minutes, the voice will return, the parents will be relieved of their anxiety, and the doctor can go home and rest contented that there will be no more trouble in that family for the next twenty-four hours.—*Med. Rec.*

COCAINE POISONING.—Four grains of cocaine was given to a 4 year old boy in mistake, and DR. NOIZARD reports in the *Revue Mensuelle des Maladies de l'Enfance*, the symptoms and successful treatment. After sleeping for half an hour the child rose from bed with pale face, haggard eyes and difficult respiration. He was perspiring freely, and complained of violent pains and cramp in the chest, the movements soon simulating those of acute chorea. Hallucinations succeeded and the pulse became frequent, the symptoms reaching a climax about two hours after the administration of the drug. Emetics were given, followed by twelve-grain doses of chloral. The symptoms grew less severe, and next day had disappeared.

A VEHICLE FOR IODIDE OF POTASSIUM.—DR. A. M. BLAIR advocates in the *Boston Medical and Surgical Journal*, the use of milk as a vehicle for iodide of potassium. He says it completely masks the taste, and does not apparently interfere with the therapeutic qualities. Patients who could not tolerate ten grains when administered in water could soon take forty grains in milk with no symptoms of nausea.

The Supreme Court of the United States has sustained the decision of the West Virginia Court declaring the medical practice act valid.

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SATURDAY, FEBRUARY 9, 1889.

EDITORIAL NOTICE.

When the writer accepted the position of Editor of the Association Journal, although the Marine-Hospital Service bill was then pending, as it had been for the past ten years, he had no certainty of its passage, but, on January 4th it passed both houses of Congress and became a law, which by prohibiting any original appointments into the service except to the rank of Assistant-Surgeon, has the effect of creating a life tenure in the office of Supervising-Surgeon-General. He therefore tendered his resignation as Editor to the Board of Trustees and it was kindly accepted by them to take effect on a day named by himself. His editorial connection with THE JOURNAL will therefore cease with the present number, and until further notice, the "Committee on General Management" will take charge of the affairs of THE JOURNAL. With the most sincere thanks to those who have sent him kindly letters, his best wishes for the continued success of THE JOURNAL, and the renewed prosperity of the Association, the Editor resumes his life-work in the Marine-Hospital Service.

JOHN B. HAMILTON.

THE VIABILITY OF PATHOGENIC MICROBES
AND THE LAKE VIEW EPIDEMIC.

Pari passu with the separation, and discovery of

new bacilli, knowledge of their method of development, their habitat and peculiarities accumulates. STRAUS and DUBARRY have in corroboration of the experiments of BOLTON, WOLFFHÜGEL and RIEDEL, come to certain definite conclusions regarding the viability of certain now well-known pathogenic germs. They have found the bacillus anthracis alive in water after the 16th, 24th, 28th, 65th and even as late as the 131st day.

The bacillus of typhoid fever lives from 30 to 81 days.

They found the bacillus of Asiatic cholera alive at 16, 26, 30 and 39 days—but it should be remembered that WOLFFHÜGEL and RIEDEL found this microbe alive in river water after 7 months.

The bacillus of tuberculosis was found living at 24, 25, 27, 30, 75, and 115 days, but it was also demonstrated that the virulence of this bacillus became attenuated after a long sojourn in water.

The streptococcus pyogenes lives from 8 to 15 days; the staphylococcus pyogenes aureus from 9 to 24 days; the bacillus of green pus from 20 to 73 days; the pneumo-bacteria of FRIEDLANDER 4 to 8 days; the micrococcus tetragenous 19 days; the microbe of chicken cholera was found living after 8 days, the microbe of the swine plague lived and thrived from 17 to 34 days, and the bacillus of septicæmia was still living at the end of 20 days.

It is found by MM. STRAUS and DUBARRY that a great many of the pathogenic microbes possess the faculty of multiplication and living in water. The bacillus anthracis, for example, will give off spores in distilled water, and it is more than probable that other microbes possess this property.

The practical lesson is that even the most pure water becomes unsafe if it comes in contact with any of the pathogenic microbes, and that, with the single exception of the bacillus of tuberculosis, the microbes are undiminished in virulence by being immersed in water.

What, then, shall we say of the water supplied by the Lake View, Illinois, water-works, where the permanganate of potassium test shows it to be heavily charged with organic matter? If the pathogenic germs will live in pure water, which has been sterilized, how much stronger will be their life in impure water loaded with ammoniacal debris?

We mentioned in the last issue of THE JOURNAL that there was an alleged epidemic of typhoid

fever at Lake View, a suburb of Chicago, of about 50,000 inhabitants. It appears that there are three sewers emptying into the lake within 1,000 feet of the water-works, and that there are now more than one hundred cases of typhoid fever within its corporate limits. Unless some active measures are soon taken in the matter of disinfection of the excreta, the cases will increase in arithmetical progression.

It is somewhat singular that near the close of this nineteenth century, with all the light on this subject with which the world has been flooded, we see a considerable epidemic of typhoid fever, in which no water analysis has been made, no bacteriological examination undertaken, and a health officer deliberately stating in the public prints that there are only eighty-six cases, and it is not much of an epidemic after all! There should not be *eight* cases, of a purely preventable disease, and the city council should now pass an ordinance requiring compulsory notification, and disinfection of all dejecta from the sick. And while they were about it they might give some attention to the securing of a good water supply.

In speaking so positively on this point, we are not unmindful of the theory of Pettenkofer, which is, in brief, that the propagation of this disease is made by the emanations from contaminated soil, and that the germ finds its way into the system through the air passages, but this doctrine does not have any considerable number of adherents, and while the majority of the profession admit the occasional production of the disease in this way, they are practically agreed that the germ arrives in the system, through the drinking of contaminated water, in ninety out of a hundred cases.

DR. OLIVER WENDELL HOLMES AND THE BOSTON MEDICAL LIBRARY.

An Associated Press dispatch of January 30th stated that DR. OLIVER WENDELL HOLMES has given his private library, now a great one, to the Boston Medical Library. This library, although less than fifteen years old, is only less in size than the great medical library in Washington, and DR. CHADWICK, under whose fostering care it has grown, may well felicitate himself on its phenomenal success.

The library in moving into its new quarters on

Boylston St., about a dozen years ago, was formally dedicated with appropriate ceremonies, and the address of the occasion was made by Professor Holmes. There was a pleasant gathering of the older members of the profession, medical gentlemen from other cities, as well as the younger element of Boston, and the address was inimitable. The Professor stood in his simple, easy unaffected way, and apparently without effort, delivered his oration, and as he stood there, his clear sweet voice never sounded better even in his younger days, and he made a pleasant picture to see, as almost unconsciously he smacked his lips in quoting a favorite author, or describing the beautiful printing and exquisite binding of certain books of a past age. A literary *gourmet*, one would say as the Professor's face shone with such unalloyed pleasure when dwelling on the bright thoughts in the pages of an old companion. But no one could say DR. HOLMES ever loved a book because it was a book. His heart is only touched, or his interest aroused by the sentiment, or the truths therein recorded. And the audience that heard him that night, went from the doors of the new building, more than ever resolved that the Autocrat, was indeed Autocrat, and that by common consent. The imagination might even for a time dwell on the sentiment that the portraits of Warren, Boylston and Waterhouse adorning the walls, were enjoying the enlivening scene, and that the manes of these departed worthies were receiving most precious incense.

DR. HOLMES has fought the Homeopathic heresy all his life and was one of the earliest members of the American Medical Association, and some who sat at its sessions forty years ago will be happy to grasp his hand at the Newport meeting, and many of his old students, and others who know his heart from the thoughts he has put on paper, will be proud and happy if this New England meeting shall give them the opportunity to have a glimpse of his face.

EDITORIAL NOTES.

A NOTABLE ADDITION TO MEDICAL LITERATURE.—We have received the first number of the *Archives de Médecine expérimentale et l'Anatomie Pathologique*, published in Paris by G. Masson.

The nature of this publication, which is to be

issued bi-monthly, is indicated by the table of contents :

1. Straus and Dubarry: Researches on the Duration of Life of Pathogenic Microbes in Water.
2. Grancher and Deschamps: Researches on the Bacillus of Typhoid in the Soil.
3. Lépine: Action of certain Antipyretics on the Consumption of Hydrocarbonaceous Substances.
4. Joffroy and Achard: Contribution to the Pathological Anatomy of Acute Spinal Paralysis of Children.
5. Hyppolyte Martin: Note on the Cultivation of the Bacillus of Tuberculosis.
6. Launegrace: Influence of Cortical Lesions on the Sight.
7. Darier: Contribution to the Study of Epithelioma of the Sudoriparous Glands.
8. Troisier and Ménétrier: Histology of "Vergetures."

The "*Archives*" is well illustrated and is under the direction of Charcot, assisted by Grancher, Lépine, Straus and Joffroy. We predict for it an immediate success.

THE TENNESSEE STATE BOARD OF HEALTH.—Governor Taylor in his message to the Tennessee Legislature says that the State Board of Health, which modern science has demonstrated so valuable and necessary in the administration of a well organized state, should have a contingent fund at its disposal. Experience has, he says, time and again demonstrated that success in combating those epidemic diseases which in the past have swept over the State like cyclones, leaving death and desolation in their tracks, and demoralizing and destroying commerce, is attained in proportion as such efforts are early, energetically and intelligently made, and to enable the Board thus to act, such a fund should be provided. A contingent fund which is honestly applied is a very necessary aid to a State Board of Health. But where diverted to making political capital for candidates for reelection to office, it had better be left in the State treasury subject to emergency calls on the Governor. These remarks do not apply to Tennessee.

TEMPORARY SUSPENSION OF A FRENCH JOURNAL.—Owing to the poor health of Dr. Meniere, of Paris, the publication of the *Gazette de Gynecologie*, of which he is editor-in-chief, has been provisionally suspended and his hospital clinic

closed. He has also been forced to materially limit his practice.

YELLOW FEVER IN CUBA.—Seven deaths are reported in Havana for the week ending January 12. The health of Santiago de Cuba and Cardinas de Cuba is reported as good, no fever existing at either place.

HEALTH IN THE BRITISH NAVY.—The statistical report on the health of the British Navy for 1887 has just been published. During the year the average strength of the service afloat was 48,410, the deaths 403, invalids discharged the service 928, and the mean daily sick list 2,133; ratios of 1,019 cases, 8.32 deaths, 19.16 discharged invalids, and 44.06 daily sick, per 1,000. Of the deaths 80 occurred in the wreck of the *Wasp* in the China Sea, deducting which the death rate equals that of 1886.

ENGLISH PHYSICIANS IN SWITZERLAND.—The English residents in St. Moritz, Switzerland, have presented a purse of \$250 to Dr. Holland, who was fined \$100 by the local Sanitäts Rath for practicing among his compatriots without a Swiss license. The objectionable law was modified and permission granted qualified foreign physicians to practice in the country by the Grosse Rath.

THE TEMPERATURE OF THE SICK ROOM.—The death of Lord Beaconsfield was attributed to an accidental fall in the temperature of his room. Dr. Wilberforce Arnold suggests, in the *British Medical Journal*, the invention of an alarm thermometer which shall give warning to those in attendance upon the sick of any serious variation in the temperature of the room. The automatic regulation of temperature has been accomplished by American inventors, and is now a commercial enterprise in the United States. The desired degree is maintained by means of a thermostat and set screw.

INTERVIEWING AN OPHTHALMIST.—A well-known ophthalmic surgeon of London has "suffered himself to be interviewed" by the representative of one of the enterprising evening papers there, in regard to professional subjects, and the *Lancet* regrets the fact, though "the replies he gave to his interviewer were, it is true, in highly general terms, to which no particular objection could be taken."

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, January 3, 1889.

THE PRESIDENT, T. M. DRYSDALE, M.D.,
IN THE CHAIR.

DR. H. A. KELLY exhibited the specimen of a
CARCINOMA OF THE CORPUS UTERI.

Mrs. F., æt. 45 years, married, applied to him in October, 1888, for the relief of persistent uterine hemorrhage. She was the mother of two children, twenty-three and nineteen years ago. Her health was good until 1886, when the present trouble began as if menstruation was appearing too frequently. The discharge soon became constant. There was a marked anæmic, sallow cast of the skin, and she suffered from an agonizing pain in the right ovarian region. The uterus was anteflexed, very large, measuring 3 $\frac{3}{4}$ inches in length, choking the pelvis, emitting a sanious, fetid discharge. She was admitted to the Kensington Hospital, and a handful of débris looking like a sloughing fibroid removed by scraping. This proved to be cancerous and, in the presence of Drs. D. Emmett, Vanness and Gramm, assisted by Dr. H. Robb, Dr. Kelly removed the uterus by vaginal hysterectomy. The operation was done with great difficulty owing to the great size of the uterus. He tried to follow the plan advocated by Dr. Dudley, of Chicago, of clamping the vessels, but the uterus was too large and he could not introduce his finger and fix the clamps at the same time. The right side was freed first, the uterus delivered and the left side pulled without the vagina, and the left broad ligament tied off; the uterus was the size of a three months' pregnancy. The vagina was packed with iodoform gauze, which was renewed in a few days. The ligature did not all come away until several weeks had elapsed. The uterus exhibited the specific difference between cancer of the corpus and of the cervix uteri. When first removed, the inner surface of the uterus was covered with a greenish slime, very fetid. The whole mucosa of the body was a mass of polypoid excrescences of variable size. The uterine ends of the tubes were not affected with the disease, nor was the cervix.

DR. KELLY also exhibited two large sarcomatous ovaries removed from a woman æt. 43. She had a marked cachetic appearance; suffered with knife pains in the lower abdomen, and had had metrorrhagia for sixteen months. He found two large irregular masses in her abdomen, which were obscured by fluid in the peritoneum. The uterus was jammed against the symphysis. At the operation, after tying off a number of omental adhesions to the right mass, it was found to be a soft,

friable tumor, with a sessile attachment involving the whole broad ligament. The tumor broke down and bled profusely upon raising it. The broad ligament was quickly tied off by an interlocking series of interrupted sutures. The lateral wall of the uterus continued to bleed actively, and he had to resort to the device which has saved lives for him on several occasions. The cornu uteri was caught in a pair of bullet forceps and raised forcibly up into view, and carried over to the left side, while he passed a stout ligature in the cervical region deep through the uterus, with a view of tying the uterine artery. This checked the hemorrhage. The tumor behind the uterus came out in handfuls, leaving a bare left broad ligament, which was treated in the same way as the right, including the ligature to the uterine artery. A drainage tube was left in and the incision closed. Five hours later he was called to see her and found a steady flow of venous blood from the tube, which had saturated all the dressings. He put her under chloroform at once and cut all the stitches, turned out all the intestines, and found an active flow from a spot in the right pelvic wall. She made a good recovery as far as the local trouble was concerned. The tumors proved to be soft round-celled sarcomata. This is the second case of sarcomatous disease of the ovaries he has operated upon. The first was a young girl of 12. Both cases recovered.

DR. WM. ASHTON exhibited a specimen of
OVARIAN SARCOMA.

Mrs. Sarah G., æt. 35, was admitted to the Jefferson Hospital on the 27th day of last November. Puberty at 15 years, always regular except when pregnant, up to two years ago, when her last child was born. At this time noticed a small tumor in hypogastric region and to the right side. She was much emaciated. A diagnosis of ovarian sarcoma was made by Prof. Parvin. Through Dr. Parvin's kindness he operated on the woman a few days later, assisted by Dr. Baldy. The tumor was found to fill the whole of the abdomen and was universally adherent. Many adhesions had to be tied, and it was found that the whole posterior portion of the bladder and the anterior portion of the uterus, as well as the fundus, had been adherent to it, and these points of adhesion oozed freely. Ligatures and Monsel's solution were used freely and the bleeding stopped. The whole cavity was then thoroughly irrigated with warm water and the incision closed, with drainage. She died in six hours of shock. An examination of the specimen by Dr. Coplin shows it to be a spindle-celled sarcoma, with points of beginning degeneration and some points of slight hemorrhage.

DR. WM. S. STEWART exhibited

THE CYST OF AN OVARIAN TUMOR,
weighing 84 lbs. The operation was performed upon Mrs. —, æt. 61 years. General health good. No marked emaciation. Abdomen enormously

distended; facias ovarianæ very perceptible. He made an incision about 2 inches in length, sac was emptied rapidly by a large trocar. Found general adhesions to the anterior abdominal walls; these were separated by a rapid sponging off, which has proved of advantage in preventing hemorrhage and traumatism. The cyst was delivered as the adhesions were sponged off. Operation lasted forty minutes. No irrigation; no protrusion of bowels or omentum; slight oozing; glass drainage tube; only five stitches needed to close incision. Weight of sac and contents was 8½ lbs. He was assisted by Drs. Joseph Price, W. H. Kirk and Dill. Having seen the patient these three successive days, found everything progressing favorably. Temperature normal; pulse 84; respirations 22, oozing about ceased; drainage tube removed to-day.

DR. J. PRICE read for DR. K. STANSBURY SUTTON, of Pittsburgh, a report of

OPERATION FOR CONGENITAL DEFORMITY.

Miss A. P. æt. 20, never menstruated. Has severe pain in lumbar region, abdomen and head, every month, but no flow. Vagina short, cervix uteri not felt anywhere, no uterus discoverable by bimanual palpation through the rectum. Often vomits, is unfit for work, is melancholy. Laparotomy December 10, 1888. Uterus unilateral, one horn $\frac{1}{2}$ inch long, as thick as the first joint of the little finger. On the left side uterus not developed; no lig. lata., no tube, no ovary. On right side small lig. lata., large tube and full-sized ovary, with two distended egg cells on surface. Ovary and tube close to cornea of the one-half uterus. The external genitalia were fully developed, the vagina about one-half ordinary depth and blind at upper end. A note from Dr. Sutton dated January 1 says: Miss P. has gone home well, all of her morbid symptoms, mental in character, are gone. He adds that he has had thirty-four ovarian consecutive operations with one death, and twenty-seven sections for all kinds done with one death. All hospital work.

DR. C. P. NOBLE read

A NEW METHOD OF DIAGNOSIS IN OBSCURE CASES OF ENTERO-VESICAL FISTULA.

He had been recently asked by Dr. C. M. Wilson to see a patient supposed to be suffering from fistula. The woman had what is called an ischio-rectal abscess about five years before. Some time after this abscess discharged, she stated that she began to pass wind and small pieces of fecal matter *per urethram*, at irregular intervals. No symptoms of bladder irritation existed. An extensive cicatrix following ulceration produced by a pessary is present in the vagina. It extends along both sides of the vagina and across the posterior fornix (behind the cervix). In view of the absence of bladder irritation, and the well-known haziness of the knowledge of anatomy possessed

by the laity, it was thought likely that, if the fistula did exist, it was recto-vaginal. A careful examination, made by Drs. Wilson, Hawley, myself and others, failed to demonstrate the existence of any such fistula. It occurred to him that the hydrogen gas test would settle the matter quickly and positively. Dr. Wilson forced the gas into the rectum and lighted it at the end of a catheter, introduced into the bladder. No gurgling sound was heard (caused by the gas passing the ileo-cecal valve); hence communication existed between the bladder and large intestine. Dr. Noble offered this as a new and valuable method of diagnosis in obscure cases of entero-vesical fistula.

DR. C. M. WILSON reported a case of

LACK OF DEVELOPMENT OF THE FINGERS AND TOES IN A CHILD DELIVERED AT TERM.

The mother, æt. 25, applied for admission to the Philadelphia Lying-in Charity in active labor. The woman was a primipara, married, a native of Philadelphia, and a housemaid by occupation. She stated that she had experienced no fright or trouble during her pregnancy. She gave a very clear account of her own and her husband's family and no deformity had existed on either side for at least two generations. The child weighed eight pounds, was fully developed with the exception of a lack of the majority of the phalangeal joints of the fingers of both hands and of both feet, the absence of the nails upon nearly every finger and toe, and the web-like folds of skin connecting several of the fingers of either hand together. The appearance of the constricting band on the right great toe would seem to give color to the idea that possibly the deformity was due to intra-uterine amputation. The fact that some of the finger-tips sloughed off after birth would seem to strengthen this supposition. He believed, however, that the deformity was due to lack of development. No history of syphilis on the part of either parent could be obtained.

DR. PARVIN presented the

SEXUAL ORGANS OF A YOUNG GIRL,

which he procured in Munich last summer for the purpose of teaching students practically many of the operations upon such organs by the method proposed and pursued by Prof. Winkel—that is, the organ being properly fastened within and upon Schultze's obstetric phantom, many of the more common operations can be made by the student as upon the living subject.

DR. PARVIN also presented

AN OBSTETRICAL MANIKIN.

The obstetric phantom shown he had made in Munich and represents a design he had entertained for many years, in fact since the beginning of his obstetric teaching. He wished a complete human form that could be put in the different positions a

woman occupies in labor, natural, manual, or instrumental. The joints are sufficiently mobile so that the model can be placed on the side or on the back, the limbs put in any position desired. The pelvis is of iron covered with leather and has a movable coccyx, while the external parts are made of rubber, which will dilate so as to admit the passage of a fetus. The abdominal cavity is ample for the introduction of two fetuses. One or both may be included in the rubber uterus designed by Prof. Winkel and thus placed in that cavity. Dr. J. Clifton Edgar, of N. Y., then a resident obstetrician in the Klinik, remained in Munich several weeks, after he left, and during his stay superintended the work.

DR. J. C. DACOSTA did not think that "annular hymen" were so very rare. He had seen some cases and among them one that was very marked. The woman had been married two years, had been pregnant and had aborted at four or five months. Coitus was exceedingly painful both to the husband and to the wife, and in the wife was frequently followed by attacks resembling epilepsy. The hymen was "annular," smooth, unbroken and elastic, grasping the finger when inserted like a firm rubber ring. Cutting the hymen cured all the trouble both of husband and wife.

DR. KELLY had made many observation and careful drawings of a number of cases which showed a definite relation between a certain condition of the hymen and the severity of a preceding labor, that is where the vaginal outlet has been broken down with extensive laceration the hymen has remained *intact*, except at the split posteriorly, being saved by the vaginal tear. On the contrary, the surest way of thoroughly destroying the integrity of the hymen was the equable, all around dilatation of a *normal* labor.

DR. B. C. HIRST showed a specimen of

ENDOMETRITIS GRAVIDARUM POLYPOSA

from the University Museum.

DR. HIRST finally read the following :

M. M., æt. 39, widow ; has had four children, youngest being 6 years old. Six weeks ago the patient attempted to lift a heavy weight and was immediately seized with sharp pains in left groin. This occurred just at the commencement of a menstrual flow, which was unusually profuse and painful. The bleeding had in fact continued until the present time (Nov. 8). On this day the woman came by a rather long horse-car journey to the Philadelphia Hospital to visit her daughter, a patient in the wards. In the hospital she was suddenly seized with great pain and sank to the ground from weakness. She was carried to the medical wards where an examination showed some form of pelvic or abdominal tumor. She was consequently transferred to the gynecological floor. A vaginal examination showed a mass of considerable extent to the left of the uterus and

apparently a cystic tumor in Douglas' pouch. Laparotomy was done the next morning. As soon as the peritoneum was cut through there welled out of the opening a large quantity of dark colored blood. The incision was enlarged, the intestines turned out and wrapped in a warm towel, a pint or more of blood sponged out and a careful examination made by inspection and touch. The left broad ligament was extended by a tumor, made up as far as he could tell of clotted blood ; near the uterus there was a ragged opening into which he could put the tip of his little finger. During the half hour that the abdomen remained open there was no hemorrhage from this spot, and had evidently been none recently, for there was no fresh blood in the abdominal cavity. His diagnosis, naturally enough, was ruptured tubal pregnancy. As the embryo, if one existed, was too small to give future trouble, and would be absorbed, he simply cleaned the abdominal cavity, picked adherent clots off the intestines and closed the wound without drainage. The convalescence was entirely favorable. He had been inclined since to alter the diagnosis. The woman on close questioning absolutely denied the possibility of impregnation. This fact, together with the history of great muscular effort at the beginning of a menstrual period, and the subsequent behavior of the patient, would naturally suggest the possibility of a rupture of a blood vessel in the broad ligament. The acute attack of pain and weakness two days before the operation might be expected by a rupture of the peritoneal covering with an escape of clots and a fresh hemorrhage into the peritoneal cavity.

The following officers were then elected :

President.—Theophilus Parvin, M.D.

Vice-Presidents.—W. H. H. Gittens, M.D., and J. C. DaCosta, M.D.

Secretary.—J. M. Baldy, M.D.

Treasurer.—Alfred Whelen, M.D.

Allegheny County Medical Society.

Special Meeting, December 18, 1888.

DR. J. CHRIS LANGE, VICE-PRESIDENT,
IN THE CHAIR.

DR. DUFF reported

A PECULIAR CASE.

I was called this evening to see a girl æt. 13. Two years ago she was down with inflammatory rheumatism. She came home last Wednesday from school, complaining of slight pain in one of her ankles. There was no perceptible swelling, her mother stated, but the pain increased slightly until Saturday, when the other ankle became affected. On Sunday a papillary eruption appeared on the first ankle, and on yesterday morning a

very free eruption appeared on the other ankle. Yesterday afternoon the wrists and elbow on the right side began to swell and to pain her, and simultaneously with the swelling, this papillary eruption appeared on both the joint of the elbow and of the wrist, and about this time the eruption became pustular upon the ankles. This afternoon she was taken worse, and simultaneously with the appearance of the pain, the swelling on the other arm and papillary eruption appeared. This evening I found her with a temperature of 104° , pulse 120, pustular eruption on both ankles, and upon the elbow and forearm on the left side there is a mixture of papillary and pustular eruption; whilst on the right arm it is papillary. I do not remember that I have ever seen anything like it. I report it as I found it, and would be glad to have the opinions of others. I have just been asked whether there was any local application made to the parts. I made particular inquiry about that, and the mother stated that there was not, except that she used a little camphor liniment.

DR. DAVIS reported a case of

AMPUTATION THROUGH DOUBTFUL TISSUES.

About two weeks since a strong, able-bodied Pole was admitted to Mercy Hospital, this being his history: He was admitted on Tuesday. On the preceding Friday, while coupling cars in a coal works near Punxsutawney, his arm was caught in the coupling and slightly crushed. He brought a letter from the doctor who attended him at the time, Dr. Williams, of Brookville, or Punxsutawney, stating that the blood supply to the hand had no doubt been cut off, and that he had urged amputation, but that the man had positively refused to have this done, and preferred to go to the city and get advice. The bandage on his arm had been probably none too tight; when seen the hand was perfectly black. On looking at the arm, every evidence of gangrene was present. The arm was swollen to almost twice its normal size, with the peculiarly marked discoloration of progressive mortification, with the blistering down near the elbow. The line of demarcation had extended over the top of the shoulder. The resident at the hospital, who had seen him two hours before, said that when he had noticed it, it was not within at least four or five inches of the shoulder, and yet in two hours it had advanced to the shoulder with a high elevation, so that by passing the finger over from the healthy tissue to the diseased, you could discern the line of demarcation. The man's temperature was about 105° , his countenance anxious, his whole appearance that of one who had suffered an extreme shock to the system, and in whom disease was progressing rapidly. I amputated the arm at the middle by the circular method, cutting through tissue absolutely black, cutting

down through the fatty tissue of the arm and down to the muscular parts, the muscles having not as yet become thoroughly involved. I removed the arm, and then applied almost boiling hot water, and then bichloride solution, 1 to 1,000. I pressed out with the bandage as firmly as I could from the shoulder down, all this material, and then filled the conical cavity full of iodoform, put a piece of cotton around, and left it. The man is rapidly improving, and will recover. I know that usually the surgeon who would have done this with any expectation of the recovery of the patient would have been considered very ignorant indeed; but I believe recovery was owing to the powerful antiseptics used, and to the use of the boiling water and the solution of bichloride.

DR. MURDOCH: A very interesting case, I think, has been reported by Dr. Davis, and one that is instructive to us all. The old rule in surgery in regard to amputations in such cases was that in gangrene which arose from a constitutional cause, such as is the case in senile gangrene, or as is the case where gangrene attacks a patient suffering from diabetes, to wait until the line of demarcation was formed. So also in some cases of gangrene resulting from local causes, such as frost-bite, the rule was to wait until the line of demarcation was formed; but in cases of injury, like the one related by Dr. Davis, I think that the rule was never thoroughly observed by the best surgeons, and that even the older surgeons advocated amputation in certain cases, in vigorous patients, while the gangrene was still progressing in cases of injury. But previous to the introduction of the antiseptic method of treatment, no surgeon would have thought of amputating through or so near dead tissue as Dr. Davis did in this case, and if he had done so without such treatment, he would not have been successful; the gangrene would have extended. For that reason this is a very interesting and instructive case. There is another point which is very instructive and useful, suggested to my mind by the report of this case. Dr. Davis tells us that the arm was bandaged very tightly above the wound, but he does not think the bandage had anything to do with the gangrene. Whether it had or not, I wish to call attention to something that should be known and well observed by surgeons. It has been my fortune, since I have been connected with the Western Pennsylvania Hospital and before, to see patients brought to the hospital with tourniquets on limbs pressing entirely too tightly above the wound for the purpose of arresting hemorrhage. I have seen several cases brought, where gangrene has resulted from the tightness of the bandage above the wound, applied in one case by a doctor, and in several other cases by those not professionals. I know of one case where a man was brought not very far from here, with a not

very severe wound of the leg. A tourniquet had been on the thigh twenty-four hours, and the limb was in a state of gangrene. This was owing entirely to the tightness of the bandage. I have known several such instances, and also instances in which patients have been brought with very slight wounds, there being only wounds of veins, the tight bandage distending the veins. Now, these frequent accidents justify the belief that if there was none of this tight bandaging, there would be more lives saved than lost as a result.

I think more people are injured by the tourniquet applied to wounds than are benefited. This is my experience in these cases. This practice arises from faulty ideas in the minds of the people, which have emanated from the profession. The profession is accountable for the education which the people have, and the reason these cases are frequent is owing to the fact that the public cannot be instructed how to apply a bandage in case of a wound. We know there are books circulated in the community, and all over the world, that instruct the laity to apply, in wound of an artery, a tourniquet or tight bandage above the wound; in wound of a vein, below the wound. These are the universal instructions to the people. Our policemen are so taught. The same is true of locomotive engineers. In wound of an artery, they will put the bandage above; in wound of a vein, they put the bandage below. They are instructed, further, that in wound of an artery the blood will be bright red, and will issue with a spurt and a whiz; that in wound of a vein the blood is black, and will issue continuously. These instructions are sufficient, perhaps, for a man who has gone through a medical college, the man who has seen a wound. Yet he may have seen very many wounds and still be mistaken in this particular. It requires a great deal of experience to enable one to distinguish between the blood from an artery and from a vein. The attempts to instruct men who are not professionals, who are not accustomed to observing severe injuries, result in more harm than good. The non-professional man, when he sees a wound, says to himself: "Now this may be a wound of an artery or a wound of a vein; I don't know exactly, but I will be on the safe side, I will put on the bandage above." Thus it happens that in every wound, severe or small, of vein or artery, the bandage is put on above the wound, and usually as tightly as it can be drawn. In nine cases out of ten these instructions result in injury. At a watering place not far from this city, a little boy fell against a mirror and cut the veins of his wrist horizontally across. There were few gentlemen at the house, and the ladies were frightened; but there were some very intelligent gentlemen present. A tight bandage was put on above the elbow. The wound continued to bleed. Then they held the arm high up. It still con-

tinued to bleed. The boy bled for two hours, until the arrival of a physician. The physician stopped the hemorrhage. He did it by removing the bandage. From like repeated experiences, I am of the opinion that the instruction being given to non-professionals results in more harm than help. If it be wise to attempt any teaching in the control of hemorrhage, I would advise these rules: If the hemorrhage be copious, and a bleeding point is seen in any wound, let it be covered by the finger point, and let this pressure continue until the arrival of a physician; if the bleeding be not copious put a bandage, not above or below, but *upon* the wound.

DR. BATTEN: Dr. Davis was fortunate in the ending of his case. I had some experience with hospital gangrene in '62 and '63. Many of the wounded of that time were afflicted with gangrene. If the leg was wounded, the gangrene would extend around the leg and expose the vessels before amputation was resorted to; but the gangrene was not arrested by the operation. It extended. And in many cases re-amputation above the knee became necessary. I believe the knowledge that is being sown among the laity regarding the care of the wounded is more harmful than beneficial. Persons not accustomed to handling wounds are timid; if they do anything, it is as likely to be wrong as right.

DR. BUCHANAN: I think Dr. Davis is to be congratulated on the success of his operation, but I think he is giving rather more credit to the antiseptics than is justified by the case. No one, I think, can be a firmer believer in antiseptic treatment than myself, but I believe that Dr. Davis rather overrated the influence of his antiseptic agents in this case. Either the flaps in this amputation were dead or they were alive. The outcome of the case shows the flaps were alive; but the antiseptic agents are not to be credited as preserving them. Either the lymph channels were swarming with bacteria or they were not. If they had been so swarming, I do not think any application of antiseptic agents would have destroyed the microorganisms they contained. I believe the man was suffering from the presence of the decomposing member, and that when Dr. Davis removed that, he removed the cause of the disease, and that probably if he had not used any antiseptic agent the irritation would have subsided as quickly.

I do not wish to be understood as saying that the outcome of the case would have been as favorable; in all probability, he would have had suppuration and trouble, but from the description of the case, I believe that the majority of men so affected would recover without antiseptic agents—not so nicely, indeed, but they would recover. I don't believe in giving more credit to the antiseptics than they deserve.

DR. DUFF: It is of importance, very frequently

that the non-professional who may witness an accident involving dangerous hemorrhage shall possess the knowledge and skill to arrest this until the arrival of the surgeon. I have twice hastened to such cases to find the patients dead of hemorrhage. It is to be regretted that the instructions now being given to engineers, firemen and the police are lacking in practicability; still they are, perhaps, better than no instructions.

DR. MURDOCH: Despite what has been said, I still adhere to the opinion that instructions in medicine and surgery imparted to the laity cannot result in good. You say, "We don't want these men to know very much; all we desire is that they may know what to do in emergencies. We want them to arrest hemorrhages, to resuscitate the drowned and a few little things of that kind." The man who is always able to arrest hemorrhage is a great surgeon.

How many of us could arrest hemorrhage as was done by Dr. Smith, of New Orleans? He tied the brachial for aneurism, then the axillary, then the innominate. That was the "little thing" required to stop the hemorrhage. That was all he did. A man who could arrest hemorrhage under all circumstances would be the greatest surgeon on the globe. The man who is able to give proper "first aid" to the wounded must be a good surgeon. For this reason it is that the attempts to teach the ignorant to do this will frequently result in disaster.

DR. GREEN: I congratulate Dr. Davis on the result of his case. The discussion that followed it seems quite complete, yet there is a desire on the part of the public, when an individual is wounded, to arrest hemorrhage whether there is any hemorrhage or not. If an individual, working in any of our mills, is wounded, the first thing done by the bystanders is, to "stop the bleeding." If the public could be taught to wait until the wounded individual would bleed, and then interfere, I think it would be a good step in the instruction of the laity. I have sent a number of patients to the hospital from the mills in the neighborhood in which I practice, and very frequently I have sent them without any application whatever. I remember two instances, in each of which an arm was torn off at the shoulder. Dr. C. B. King will remember one case and Dr. Murdoch the other. I think he amputated the arm. The soft parts were torn off almost completely at the shoulder, and the bone two or three inches below, yet there was no bleeding.

DR. DAVIS: In reply to Dr. Buchanan, I believe that until very recently, there is no authority for cutting through gangrenous parts. I do not know whether there were any bugs in the lymphatic system of this patient's arm or not. I am not much on bugs. I believe it was the hot water and the bichloride. The tissues were full of gas and the cutting pressed the bubbles of

gas out, but whether there were any bugs in them or not, I don't know.

DR. BATTEN: I have a case which illustrates the result of instructions to the laity. We all know that the laity know the use of bromide of potash, chlorate of potash, quinine, etc., about as well as physicians do, and are constantly going to the drug store for these drugs. If the patient has sore throat, the physician says: "Well, take a little chlorate of potash." If the trouble is want of appetite, they say to the patient that they will give him a little quinine, or a little bromide of potash if he has the headache. The consequence is that the laity, when they have the least thing the matter with them, take to the drug store and procure those different drugs. I believe it results in harm. The case which I wish to relate is one in which a barber prescribed. He succeeded in salivating, but not in benefiting, a patient with syphilis.

DR. J. J. BUCHANAN read the following paper on

UNUSUAL RESULT OF LONG-STANDING TARSAI CARIES.

The patient whose case I am about to report, a girl *æt.* 16, came under my care in June last, with the following history: Family record free from tubercular or specific disease, health perfect till close of third year, when a bleb appeared over the outer aspect of the *os calcis*, which subsequently broke down and formed the extremity of a sinus leading to the bone. This sinus remained open for years, occasionally discharging detritus of carious bone, till eventually the posterior portion of the calcaneum was entirely gone. Sinuses then formed in other parts of the ankle and lower part of the leg. During these thirteen years her health has been precarious, severe illnesses alternating with periods of comparative health. Some weight could be placed upon the toes till about five years ago, since which time the limb has been perfectly helpless and its great weight has made it much of a burden. For that length of time she has been obliged to walk on crutches, and the weight of the limb permitted almost no walking outside the house. She has long been unable to move any of the toes or her ankle in the slightest degree.

When I first saw her, her nutrition was fair, pulse 90 to 100 and temperature normal. The limb from the knee down was enormously enlarged, and, at the calf, was thicker than at any part of the thigh. It had the shape precisely of a limb the subject of elephantiasis; the skin, however, was comparatively normal, a little thickened and glazed about the ankle. A number of sinuses opened about the ankle and lower part of the leg, all of which apparently led to the astragalus. The condition of the foot precluded the idea of any conservative operation, the only question being whether to amputate through the

leg or at the knee. I amputated about the middle of the leg by antero-posterior flaps, using antiseptic precautions. The muscular tissue at the point of section had entirely disappeared and had been replaced by connective tissue. The flaps cut like salt pork, very heavy, inelastic, and were made up entirely of connective tissue, with gaping vessels traversing it, and imbedded in it an occasional tendon. A single sinus in one of the flaps required scraping with the sharp spoon. The bones gave evidence of chronic inflammation. The larger vessels were secured by passing under them a needle armed with catgut, and tying them *en masse*.

Subsequent dissection of the amputated part showed its soft tissues to be in exactly the same condition as existed above; careful search failed to reveal a remnant of muscular fibre in the foot. There was complete disorganization of the ankle-joint, absence of the posterior portion of the calcaneum and beginning disease of the tibia.

The stump healed by primary union, and the patient was out of bed on the ninth day. Five months later her attending physician, Dr. Cyrus McConnell, wrote me that the remaining part of the leg had diminished to about the size of its mate, and that her restoration to health had been complete.

As to the pathological condition existing here, I suppose that during these thirteen years of inflammation and caries of the tarsus, there had been a constantly increased supply of blood sent to the foot, and that this had caused the enormous overgrowth of the connective tissue of the limb. Dr. John H. Packard, to whom I related this case, suggested that probably there was also an involvement of the lymph channels as in the so-called elephantiasis. I report this case for the reason that I have no knowledge of any similar one, and the literature at my command does not describe this pathological condition as resulting from carious disease.

DR. DAVIS: I rise to speak of the fact only that I think in my experience I have seen a case very similar to Dr. Buchanan's. It was a case of caries of tibia of long standing, in a young woman. I cut down on it and scraped and worked around it in the manner of bone scrapers, without hope of doing her much good. The tissues struck me as being in just the condition that the doctor describes. The part did not heal kindly, and after some weeks the limb was amputated above the knee by my colleague, Dr. Dickson. The description of the tissue makes the two cases very similar.

DR. ALLEN then made some remarks upon

SYMPATHETIC OPHTHALMIA.

The fact that there is nothing in the whole domain of medicine more important than the saving of the remaining eye to the man who has already

lost one, will justify the time I shall consume upon the subject. I will not go into a lengthy discussion of the cause of this affection: some men believe that the germ of suppuration travels from the affected eye through the optic nerve to the sound one: some explain it through the sympathy of the ciliary nerves: whatever the cause the point I wish to emphasize is, the early removal of the injured ball. "Save the eyeball" is a too frequent cry in cases of injury even after the sight is destroyed. It is a cry that is ominous to the patient. Whether there is a foreign body in the ball or not (a matter which cannot always be determined), whenever the sight has been destroyed and there is any irritation in the sound eye, early and complete enucleation is the best treatment. The injuries that in my experience are most frequently followed by sympathetic ophthalmia are those through the junction of the cornea and sclerótica, involving the ciliary body. When such an injury exists a sharp watch should be kept for the advent of sympathetic inflammation, and upon its appearance immediate removal of the wounded ball is indicated.

Clinical Society of Maryland.

Stated Meeting, December 21, 1888.

THE PRESIDENT, GEORGE H. ROHÉ, M.D., IN THE CHAIR.

DR. JOHN W. CHAMBERS read a paper on *Cholecystotomy, with Relation of a Case.*

DR. L. McLANE TIFFANY reported some cases of

CRANIAL INJURY INVOLVING REMOVAL OF BONE.

The report embraced ten cases, since 1883. The injuries were the results of different causes and in all more or less bone was removed. Recovery took place from the operation in the ten cases. In one instance the patient's mind became seriously impaired and it was found necessary to remove him to a hospital for the treatment of the insane. The operations were all done antiseptically. In one case where death took place some time after the operation, it was thought to have been caused from a fracture at the base of the skull which was present in addition to the injury on the surface. Blood had oozed from his ears prior to his entrance into the hospital. The patient partially recovered consciousness, but remained out of his mind till death, which took place on the twenty-seventh day. In another case death occurred some time after operation, and was the result of an abscess which formed after the patient had been injured by a pistol bullet which entered the brain and was not recovered. The autopsy showed the presence of the abscess in the right hemisphere, no portion of which was within $1\frac{1}{2}$ inch

of the convexity of the brain. Some fragments of lead were found in the abscess, and their presence most probably caused it.

DR. J. EDWIN MICHAEL said that in connection with this very interesting series of cases reported by Dr. Tiffany, he desired to speak of a number of similar ones that have come under his treatment during the time embraced in Dr. Tiffany's report. The cases came to him in groups; two in the early part of 1883 and four between January and July of the present year.

Case 1.—Male, æt. 33, who met with railroad accident, crushing his left leg and causing injury to his head on the left side. He was brought into the hospital and the leg was amputated. An examination of the head showed a fracture of it at about the upper segment of the occipital bone. Operation was decided on and the preliminary steps of preparing the wound were carried out. The trephine was then used and a number of fragments of bone were removed. There was some loss of brain substance; the dura was slightly ruptured, some hemorrhage occurred from a small artery, which was ligated. The wound was then dressed and no bad symptoms followed.

Case 2.—Male, a sailor by occupation. He had received a compound fracture of the middle part of the parietal bone on the right side. He was not trephined for about forty-eight hours afterwards; hebetude was present and a rise of temperature had taken place. After going through with the usual preparations, he trephined at the margin of the fracture and removed the fragments away. Dura was not torn. The wound was dressed in the usual way and no head symptoms followed the operation.

Case 1. (Second Series.)—Male, German, æt. 40. He came in contact with a revolving grindstone, which struck him on the left temple, it made a ragged wound and he was taken to a drug store where the proprietor applied Monsel's solution to it. An examination of the parts revealed a fracture of the skull; the trephine was used in consequence; it was placed at the margin of the wound and a button of bone removed. The dura was not wounded. The margin was then cleansed and trimmed and the wound adjusted in the usual way. Some evidence of inflammation was about the wound for awhile, but soon subsided and no other symptoms appeared.

Case 2.—Male, æt. 45, turner by trade, while working at his lathe operating on a block of wood it struck him on the head. He was brought to the hospital where he was anesthetized and examined. A fracture of the skull was found and the bones were taken away. The fragments showed both the external and internal tables, including the frontal sinus. When the removal of the fragments of bone was complete a probe passed into the nose; all of the cribiform bones and the crista galli of the ethmoid were included in the

bones removed. Considerable hemorrhage occurred, most probably from the longitudinal sinus. A current of dark blood spouted from the hole, but it was controlled by gagging the tissues. The wound was packed with iodoform. Pressure was then applied and no further trouble occurred. The dressing remained on for ten days when it was repowdered and it turned out to be an aseptic case.

Case 3.—Boy, æt. 10, while stealing a ride on a street car, fell and a loaded cart passed over his head. He was taken to a drug store and first seen by Dr. Biedler, after which he was sent to the hospital. At least a tablespoonful of brain substance was lost. Examination of the head showed an injury to the parietal bone on the right side near the lamboid suture. He anesthetized the patient and examined more thoroughly. At least half an ounce of brain substance was seen. A ragged wound was observed and the bones found depressed. The trephine was placed at the most convenient point and a number of pieces of bone were removed; the dura mater was largely torn. The wound was dressed as usual, a drainage tube was used which ran the whole length of the wound. His object in doing this was to bring about drainage and at the same time prevent hernia of the brain. The case went on favorably and at the end of three weeks the dressing was removed and the patient left the hospital.

Case 4.—Boy was knocked down by a mule striking him on the forehead over the frontal region. He was called to see him by Dr. Norris. The patient at this time was unconscious; the wound was very ragged. He sent the case to the hospital, where the usual preparations before operating were made, the wound was then enlarged and the bone fragments were removed; dura was not torn. A fissure extended over the orbit and another passed backward over the head; this led him to suspect severe injury. There had been some convulsive movements of the left leg and foot, but they ceased after the removal of the bones and dressing the wound. These cases, with those reported by Dr. Tiffany, make some fourteen in all that have been treated in a similar way.

DR. RANDOLPH WINSLOW said he had recently seen in consultation a case of fracture of the skull which illustrated two facts, first, that a very small injury may result fatally when treated badly; second, that it is sometimes difficult to make a correct diagnosis even when the symptoms point almost pathognomically to a certain lesion.

Case.—A man, æt. 37, was struck upon the head by a brick falling from a height of 18 or 20 feet. He did not become unconscious at once, but after walking a short distance lost consciousness, which, however, he regained whilst being conveyed to his home in the patrol wagon. A

wound was made in the scalp over the upper portion of the fissure of Rolando. A doctor who was called said he had a fracture of the external table of the skull, and put a suture in the wound. Falling into the hands of another practitioner, the wound was not opened and the patient did well for five days, when he complained of pain in the head, and a numbness of the right arm, the wound being on the left side. Soon he became hemiplegic on the right side with left facial paralysis and aphasia, and he seemed to be unconscious. On December 13, I saw him for the first time and found the symptoms as above, the pupils contracted, but responsive to light; involuntary evacuations; temperature 103°; pulse 68. I was certain that I had to deal with an abscess following a depressed fracture, and so opened the wound, which had healed, and found a very small depressed fracture with the fragments so tightly wedged together that they could not be raised until the trephine had been applied. The dura mater was pressed upon but not penetrated and there was no abscess or clot at the seat of fracture. The dura and brain bulged into the opening. The membranes were punctured and the brain explored without finding pus. The symptoms seemed to ameliorate slightly for a day or two, but spasms of the face and thumb and fore finger, with paralysis of motion and sensation, pointed to trouble about the lower and middle of the motor area so strongly, that I again trephined him, near the lower portion of the fissure of Rolando, and a slight discharge of pus occurred but no abscess was found. At the autopsy no abscess could be found, but a left sided prevalent meningitis, and thickening of the meninges, probably of the ascending parietal convolution. Dr. Winslow was also of the opinion that the skull should be explored in all cases in which there is a probability that a fracture has occurred, though no wound of the skull be present.

DR. ROBT. W. JOHNSON said that he had under his charge three cases of fracture of the skull, in his service at Sparrows Point; one of these died and two recovered after the bones were raised. The third case was of special interest to him. The patient was struck on the head in the frontal region by a block of wood. The eye was very black from it. After the injury he walked some distance and was able to give his name. When he saw him he was unconscious and after making an examination he diagnosed fracture of the bones of the skull, but did not locate the clot; shortly after this paralysis began in the left leg and arm and he decided to trephine; a button of bone was removed and he found a clot about the motor tract which was of some duration. The hemorrhage was controlled with warm water and packing the wound. He mentioned this case, he said, because the subject was under discussion and he simply wanted to refer to it.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

The Influence of Carlsbad Water in Uric Acid Excretion—Auto-Injection from Gastro-Intestinal Fermentation—The Section in Practice of Medicine of the New York Academy Reflects its Chairman.

At the last meeting of the Section in Practice of Medicine of New York Academy, Dr. Schuman LeClereq, of Carlsbad, read a paper on the *Influence of Carlsbad Water on Uric Acid Excretion*, in which he gave the results of a series of careful experiments on his own person. Dr. F. H. Otis added his personal experience and observation in the treatment of obesity and hepatic derangement. The Chairman, Dr. R. C. M. Page, said that individuals who had too much fat and those who had an excess of uric acid would derive benefit from the treatment; but for those suffering from Bright's disease or pulmonary trouble, or from any grave depression of vitality, it was only attended with evil.

At the same meeting, Dr. Wm. H. Thomson read a paper on *Auto-Injection from Gastro-Intestinal Fermentation*, a subject to which he incidentally referred when taking part in the recent discussion on neurasthenia before this section of the Academy. He first related several cases in which he believed auto-infection to have resulted in the production of serious nervous troubles, and then made these the text, as it were, for some general remarks on the subject. The first was that of a lady, 50 years of age, who was affected with Graves' disease; though the enlargement of the thyroid and the exophthalmia were slight. She had suffered for a considerable time from diarrhoea and excessive nervousness, and she continued to grow steadily worse until she was finally placed upon an exclusive diet of Arabic fermented milk. No medicine was taken except some bismuth and pepsin powders, but, under this treatment she rapidly improved, and at the end of two months was practically well. Returning to a mixed diet, she was again troubled with the diarrhoea, and she then resumed the fermented milk, but after a time it became so distasteful to her that she was obliged to give it up. Dr. Thomson now lost sight of her for a year, and when he saw her again, he found the condition greatly aggravated; the exophthalmia and enlargement of the thyroid having increased very much. This time fermented milk had no effect, and not long afterwards she died very suddenly. It would seem, he said, that in this instance, the milk for a time arrested Graves' disease.

The next case was that of a gentleman of thirty-five, who suffered from dyspepsia and hypochondria; his chief trouble being palpitation of

the heart and a rapid pulse. He was relieved by bismuth and columbo, and Dr. Thomson believed it was a case of auto-infection. The third case was that of a gentleman, 54 years of age, who had had gout for twelve years. He was troubled with a watery diarrhœa which had a definite relation to certain head symptoms. When he had diarrhœa, he was affected with mental cloudiness, and whenever constipation could be induced his mind was clear. He was relieved by salol, benzoate of soda and charcoal. The fourth patient was also a gentleman of fifty-four, and he was troubled with peptic insomnia. For a time he took salicylate of soda with some benefit, but it had to be given up on account of its unpleasant effects, and more recently better results had been obtained from creoline, with charcoal as an excipient. The fifth case was one of epilepsy, in a lad of seventeen, who had had the trouble ever since he was three years old. The attacks are always preceded by pain in the stomach, and a comatose condition always continued for a number of hours, when it terminated with the appearance on the body of a general eruption resembling urticaria. The seizures were often as frequent as two a day, and he found that they were invariably preceded by a watery diarrhœa and fetid breath. After trying various other agents Dr. Thomson employed picrate of ammonia and digitalis with such good effect as to prevent the attacks altogether. After a time these remedies were discontinued, but the attacks coming on again, about once a week they were renewed. This time, however, they failed to control the disease, and salol, nitrate of silver and other agents were substituted for them with good results.

Dr. Thomson then went on to say that it could no longer be doubted that the intestinal canal might be the seat of the generation of violent poisons, the result of bacterial action, which were as powerful as any poisons which could be introduced from without. This was clearly shown in typhoid fever and cholera, and it was indisputable that many disturbances of the economy, and especially functional derangements of the nervous system, were primarily due to this agency. Much light had been thrown on this subject during the last ten years by the investigations of Brieger, Selmi and others in regard to the ptomaines. While many of these were inert, there were others possessing every variety of deleterious influence, and which closely resembled some of the vegetable alkaloids in their qualities.

A priori, he said, we would expect that the intestinal canal, from the conditions known to exist there, would be likely to admit of such changes in its contents as would evolve products such as would give rise to many distinct forms of nervous disturbance. For a long time he had been convinced that there must be an essential difference

between those forms of nervous disease which were intermittent and those which were constant in their character, and that this consideration had a bearing on the matter of treatment. If the symptoms were constant, the disease must be organic, while if they were intermittent he did not believe that there could be any organic lesion; and hence epilepsy was to be regarded as a functional affection.

Since there was this constant tendency to fermentations and the generation of poisons in the intestines, it might be asked what, then, is our safeguard? The answer was, the character of the natural secretions. They were, in the first place, digestive; and secondly, promptly antiseptic. In so-called uræmia the condition was due rather to the excretion of intestinal alkaloids than to the excretion of urea; and from his belief in the liability to the generation of such poisonous products in various states of the system, Dr. Thomson said he had been led to employ antiseptic agents very largely in his practice. In looking back over the past few years in his own experience he could observe, therefore, a marked change in the treatment which he adopted in various conditions, the tendency being constantly towards the more general use of antiseptics; and among the agents which he had found most useful were bismuth, resorcin, naphthol, benzoate of soda with salol, and creoline with charcoal as an excipient.

At this meeting the annual election of officers took place, and Dr. Page, who by his indefatigable and self-sacrificing efforts has maintained the Section in a high state of efficiency, was given the well-deserved compliment of a unanimous reelection to the chairmanship.

P. B. P.

LETTERS.

Medical gentlemen writing to the Editor of THE JOURNAL will please conform to the rule requiring MS. to be written on one side of the paper, to take pains to write the names of persons and places legibly, and to send their own names as a guarantee of good faith in changing address subscribers will please give old address.

An Ambitious Needle and a Benign Bullet.

To the Editor:—Dr. Kime, in the issue of January 19, reports a case of the "Migration of a Needle." I offer a companion case.

Some time during the winter of 1885-6 I was called to see the 3-year old son of Mr. Henry Cook, of this place. I found the child busy with his toys and not complaining of anything. His mother informed me that, while creeping over the floor, he had suddenly cried out, and going to him she found a needle protruding, *point out*, from the inner aspect of the knee. I made a careful examination and, aside from a small prick-point of the skin, I found nothing to indicate any foreign body being imbedded, and so informed Mrs. C. She said she knew it was there, for she had, in her effort to remove it, broken off the point. As the

child suffered no more, I advised that nothing be done. I heard no more from the case until January 1, 1889, when the child was brought to me to examine a tender spot in the lumbar muscles, about 1½ inch to the left of the spine and about 3 inches above the crest of the ilium. I found a slightly darkened spot, and the "feel" indicated some foreign substance to be enclosed. Upon cutting through the skin I removed a piece of a needle 1 inch long, with the eye perfect and point gone. Was it the needle that punctured the flesh at the knee three years ago?

January 20 I was called to see Harry Metzger, æt. 5 years, son of John Metzger, of Granger, Ind. I found the little fellow playing with his brother, and upon asking for information as to why I was called, I was informed that Harry had shot himself. The little fellow had found in a trunk a 22-calibre Smith & Wesson revolver. He said he was blowing in it, when he "saw fire in the handle, and it went pop." Upon examination I found that the ball had passed through his tongue, struck the right central incisor tooth, which was broken off square and close to the gum; from the tooth it had deflected to the centre of the palatine arch, bruised the mucous covering, and from there it again deflected, passing through the palate into the throat, and was then swallowed. Two days after the ball was found in the feces. *Not a powder mark* was found on his face or in his mouth; he suffered no greater inconvenience from his wounds than a slight soreness in swallowing solid food for not over twenty-four hours. A trial of the weapon with cartridges from the same box showed a force sufficient, at a distance of 10 feet, to penetrate a 1-inch (dry) fence board.

Query. Will the absence of powder stains of the skin prove that the weapon was, necessarily, a certain number of feet from the victim?

J. B. GREENE, M.D.

Mishawaka, Ind.

Medical Registration in England.

To the Editor :—Some of your readers may be unacquainted with the fact that foreign and colonial graduates can register in this country without passing any further examination, under certain conditions.

"Her Majesty in Council will from time to time define the Colonies and Foreign Countries to which the law is to apply."

Though this Act is in force since June, 1887, yet it is a fact that New Zealand is the only country that has taken advantage of the same. It is true that certain American schools have applied for recognition, but not according to law, therefore their claims could not be entertained.

The Colony, Foreign Country or State must make application to be recognized first, and this,

in the case of foreigners, must be done through their Government, and their respective Minister, in London; and then, if favorably received, the college or university could send in its application for recognition. I presume very few Americans will ever take advantage of the new Act, even if they are allowed to practice here.

A YANKEE M.D.

Liverpool, Jan. 18, 1889.

Is it not Simpson's Acupressure Improved?

To the Editor :—In THE JOURNAL of January 19, under the head of "Original Articles," appears a well written article by C. S. Muscroft, M.D., of Cincinnati, viz.: "Results in Eleven Cases of a *New Method* for Arresting Bleeding in Surgical Operations," a paper read before the Section of Surgery, A. M. A., 1888.

In December, 1859, the late Sir James Y. Simpson, in a communication to the Royal Medico-Chirurgical Society, of Edinburgh, presented the same method of hæmostasis, under the name of "acupressure."

Does Dr. Muscroft mean by calling his method *new*, that it is not "acupressure" applied: not after the operation, in the flap, but before the flap is made? Is it not Simpson's "acupressure," improved by Muscroft? I do not wish to criticise, but ask for information. Respectfully,

F. S. THOMAS, M.D.

Council Bluffs, Iowa.

BOOK NOTICES.

THE PATHOLOGY AND TREATMENT OF DISPLACEMENT OF THE UTERUS. By DR. B. L. SCHULTZE, Professor of Gynecology, Director of the Lying-in-Institution, and of the Gynecological Clinic in Jena, etc. Translated by J. J. MACAN, M.R.C.S., Eng., A. V. MACAN, M.Ch., etc., Master of the Rotunda Hospital, Dublin. 8vo, cloth, pp. 378. New York: D. Appleton & Co. Chicago: A. C. McClurg & Co. 1878. Price \$3.50.

This is one of those books that are not born to die, for it is devoted to a special subject. The text-book comes and goes, it serves to fill a space for a brief period, but the monograph is quoted forever. We look at the text-book while it is fresh, but when preparing a lecture, or writing an article for the medical society, we seek the monograph, however mouldy it may have become, or whatever the thickness of the dust upon it. Therefore those who seek fame in medical literature must do so by circumscribing their literary ventures, and concentrating their powers upon a single class of ideas. How few text-books have survived their times?

This book of Dr. Schultze gives in extenso his views on the whole subject of pathology and treatment of displacements, and the author has adopted the excellent plan of giving at the end of each chapter, a summary of its contents. The work has numerous wood cuts, which, although not pretentious, are fairly illustrative of the text.

PULMONARY CONSUMPTION CONSIDERED AS A NEUROSIS: Being Two of a Series of Lectures given by the Faculty of the Philadelphia Polyclinic in the Course of 1888 and 1889. By J. Mays, M.D. Reprinted from the *Therapeutic Gazette*. Pages 63.

In these lectures Dr. Mays has endeavored to collect evidence to show that pulmonary phthisis is primarily a neurosis. His position can be best stated in his own words: "It appears very certain that pulmonary consumption is not a local disease; that it is essentially a neurosis of the peripheral nerves; that the neurosis in all probability establishes a herpes of the vagi, in the same manner as a similar affection is produced in the skin, which gradually leads to all the characteristic lesions of the disease;" "and finally we will no longer be forced to admit that the disease originally diagnosed as pulmonary consumption has been superseded, or is accompanied by paresis, dropsy, intercostal neuralgia, peripheral or multiple neuritis, loss of knee-jerk, herpes zoster, etc.; all those are but legitimate results of this disease."

We believe that very few will agree with Dr. Mays' propositions. It is true without doubt that in phthisis we have often to do with disorders of innervation; but that these constitute the disease is not probable.

Dr. Mays cites evidence to show that malnutrition, that night sweats, that loss of appetite, hoarseness, aphonia, diarrhoea, etc., may be of nervous origin, and then concludes that they are of such origin in phthisis. He describes the results of several experimenters who have observed that section of the vagi causes *congestion* of the lungs, and the observations of Brown-Sequard and Nothnagel that injury to the base of the brain is frequently accompanied by hæmoptysis, œdema and solidification of the lungs. He also summarizes the observations of J. Crichton-Browne on the morbid anatomy of 100 cases of general paralysis. Browne found hypostatic congestion of the lungs in 49 cases, pneumonia in 13, phthisis in 25. From this our author concludes: "When the teaching of experimental physiology is taken in connection with that of clinical medicine and with the results furnished by the post-mortem room, it becomes quite clear that pulmonary lesions which accompany nervous disease are not mere incidentals, but in all probability the necessary outgrowth of the latter condition."

The words tubercle bacillus are not to be found

in the lectures. This is a novelty to-day in the literature of this subject.

How Dr. Mays can draw any conclusions from experiments and observations which connect the production of congestion of the lungs with the exciting cause of tubercular disease we cannot understand. And is not the fact more impressive that experiment demonstrates, that tubercular disease will manifestly result from infection by the tubercle bacillus.

That nervous lesions, states and diseases may predispose to tubercular infection is probable, but that, as Dr. Mays urges, the nervous phenomena are uniformly the starting point of the disease does not seem true.

N. S. D., JR.

TRANSACTIONS OF MEDICAL SOCIETIES.

1. Transactions of the Medical Society of the State of New York. 1888. 8vo, cl. pp. 689.

These transactions are fully up to the standard of former volumes, and contain papers by such well-known members of the profession, as Loomis, Delafield, Vander Veer, Wylie, Roosa, Barker, Jacobi, Weir, Pifford, Stover, Gibney, Bryant and others. Memorials and obituary notices are published of the following deceased members, viz.: Jno. P. Gray, Ferris Jacobs, B. A. Mynderse, J. R. Boulware, Edwin Hutchinson, W. F. Teevan, W. M. Chamberlain, Wesley M. Carpenter, and Thos. F. Rochester.

This work is handsomely printed and the names of the authors are a sufficient guarantee of excellent material.

2. Transactions of the Association of American Physicians, vol. iii. 8vo, cl. pp. 400. This is a handsome little work, and it is a great pity that so many good papers are buried in a volume of transactions to be read chiefly by the select who belong to the Association.

The volume comprises the Minutes of the Association, the Constitution and By-laws, and papers by the following authors: W. H. Draper, W. W. Johnston, J. H. Hutchinson, Geo. Ross, F. Forchheimer, J. C. Wilson, Frank Donaldson, R. T. Edes, E. G. Janeway, Jas. Tyson, A. L. Loomis, S. C. Chew, J. M. DaCosta, G. Baumgarten, A. Jacobi, E. C. Seguin, Wm. Osler, G. L. Peabody, J. K. Thacher, F. T. Miles, G. M. Sternberg, F. P. Henry, E. Sotly, B. Robinson, P. G. Robinson and H. C. Wood.

The papers are valuable, and the work is well printed.

MEDICAL gentlemen desiring to become members of the Association, can do so by securing the endorsement of the President and Secretary of the local society to which they belong, and enclosing the application with the membership fee (\$5), to the Treasurer, Dr. Dunglison, lock box 1274, Philadelphia, Pa.

MISCELLANY.

HOMŒOPATHY IN GERMANY.—Homœopathy has received quite a blow in the country of its birth. It appears that the tribunal of Flensburg, in Schleswig, recently sentenced a young homœopath to one year's imprisonment. The charge upon which he was arraigned was that he *involuntarily* caused the death of a child afflicted with lung disease, the existence of which he did not recognize, leaving the patient in consequence without any active treatment. The trial lasted a year and a half, owing to the wide diversity of opinions existing between the experts, homœopaths and regulars. This is probably one of the first instances in which a physician has been convicted for neglecting to administer drugs. As a rule, they have hitherto suffered at the hands of the law for giving too much medicine.—*St. Louis Medical and Surgical Journal*, January, 1889.

A CLERGYMAN ON DETECTIVES.—The "detective" business was resorted to in Boston not long since by some smart men who wished to expose, as they said, the delusions practiced by alleged doctors upon patients. These smart men feigned great distress in back, hips, loins, and went to different doctors and secured from each a diagnosis and a form of treatment. Meeting and comparing the wise remarks uttered by the physicians the witty men had a large and long laugh. But there was no place for a laugh, because no doctor can treat a disease when the patient lies regarding the symptoms. If a man calls upon an eminent doctor and falsely tells him that he had a slight hemorrhage of the lungs yesterday, the doctor must prescribe for the man, because the medical profession is under no obligation to know at first sight the difference between a consumptive and a liar. Instead of being smart, those Boston "invalids" were only a lot of persons with whom a stranger's pocket-book would not be safe.—Rev. David Swing in *Chicago Evening Journal*.

GOVERNMENT SANITARY REPORTS.—*Havana, Cuba*—*Shipment of Infected Ballast—Danger of Yellow Fever Contamination at Wharves.*—The following communication has been received:

"Havana vessels loading for American ports after May 1, have little to bring except fruit and cigars, and take in sand ballast at times at the yellow fever hospital wharf. This sand is discharged at the ports, and the hot suns of July and August will develop naturally the disease. All seaports are interested, and quarantine does not meet the emergency."

The communication was referred to the United States sanitary inspector at Havana, Cuba, for his information, and he has made the following report, supplemental to that of December 14, 1888, (see Abstract No. 52):

HAVANA, ISLAND OF CUBA, January 2, 1889.

Dear Sir:—A communication relative to vessels carrying yellow fever in sand ballast, etc., which you have referred to me for my information and report has been received.

In reply I would say, that if I interpret the document correctly it chronologically refers to a period in 1876 and 1877—some years before there was an United States sanitary inspector appointed at this port. However, I was living here at that time and know that several Spanish vessels in the spring and summer months of the year 1876, bound for Savannah, took in for ballast the most objectionable and dangerous material—dirt, etc., scraped up from a level with the water of the harbor and saturated with the filth of surrounding habitations—dwellings in which there was sickness at the time. These vessels sailed from here and in due time arrived in Savannah. I was informed where that ballast was discharged and of the circumstances attending the first cases of yellow fever, which precluded the fearful epidemic in that place

in 1876, and my own personal belief has been, and is now, that that epidemic was caused by that ballast which was carried there in those vessels. I have understood that for several years past, vessels for Savannah, with ballast from this place, are made to discharge it near the sea, and entirely away from any population.

Since the year 1880, or thereabouts, I have not known vessels bound to the United States to take in such excessively bad ballast, probably from the warnings of your sanitary inspector.

However, there is a class of vessels, some of which go to ports in the United States, which have and still continue to take on more or less ballast at wharves in this city. They are mostly Spanish barks or ships, and are so constructed that they cannot, it is thought, be entirely discharged without taking in ballast or some weight toward the conclusion of the process to keep them from tipping over. In other words, they are built so crank that they cannot stand up without some ballast in them. As I have said, these vessels discharge usually at wharves on the Havana side of the harbor, and there they take in a portion of their ballast often, and then go out into the bay to complete the ballasting process. For several years past this ballast has come from the hills back of the town of Regla, on the opposite side of the harbor from Havana.

It is brought down from those elevations and dumped on the shore in the immediate suburbs of Regla, where it remains until some vessel requires it. In a sanitary sense it is more or less injured by its treatment by that population without doubt. When needed it is shoveled up and put aboard of lighters, and carried alongside of the vessels and put aboard in baskets. Although none of it is put on the wharves on the Havana or freight side of the harbor, it none the less shares with the vessel the deleterious influences of that locality. The Havana ballast usually consists of earth mixed with a soft friable, crumbling, grayish-blue stone, and in one place a harder whitish calcareous stone is found. It is all very porous, but the latter is far the most solid and best.

Exactly what wharf or place the correspondent meant by the "yellow fever hospital wharf," I cannot divine, for there is not now, neither has there been in the memory of any one now living, any hospital specially and exclusively used for that disease. There is, however, a hospital near the wharf in which yellow fever is always to be found, and as the two hospitals that are near the wharves are on the Havana side of the harbor, it is probable that the wharf spoken of meant the wharves on the Havana side of the harbor.

All the wharves on the Havana side of the harbor are immediately contiguous to the town. They are made of wood, on thickly-driven wooden piles, and under them many of the sewers of the city empty. The almost tideless harbor affords no current sufficient for cleansing purposes, and the sewage is left to deposit and putrefy just where it is emptied viz., under the wharves. As a matter of fact, yellow fever occurs at these wharves many months in the year, and some seasons it has been known to invade vessels every month in the year.

Their locality must not only endanger the atmosphere of vessels lying at them, but whatever is taken aboard in their immediate precincts, whether it is sand, or earth or porous stone ballast, or cargo consisting of hides, etc. These dangers of yellow fever contamination from these sources have been for a long time recognized by your sanitary inspector, and to meet the emergency he always states in the bill of health which the vessel carries for the information of the health officers or boards of health at the port of destination, the fact whether the vessel has been at wharves or not, and if so, how long, as well as at what wharves.

The same information is given to the Supervising Surgeon-General of the Marine-Hospital Service.

In addition, the captain or those interested in the vessel are advised to disinfect or fumigate that ballast or that

cargo so exposed as well as the vessel itself after all are out in the open bay.

It will thus be seen that the Surgeon-General of the Marine Hospital Service is informed in regard to the sanitary status of the vessel and contents as near as may be, the health officers at the port of destination in the United States are also informed, and can take any advisable action to protect themselves against vessel and contents, and the captains are urged to do all possible to put their vessel, etc., in a good sanitary condition before leaving this port.

It has often occurred to me that the safest and better way would be never to discharge Havana ballast at or near any population south of the capes of Delaware.

I should have stated that quite a number of captains desire their vessels and cargoes or ballast disinfected and fumigated before they leave here, and when it is done it is noted in the bill of health, as well as what is done.

Very respectfully, your obedient servant,

D. M. BURGESS,

Sanitary Inspector Marine-Hospital Service.

To Surgeon-General HAMILTON.

Havana, Cuba.—The United States sanitary inspector reports as follows:

HAVANA, ISLAND OF CUBA, January 2, 1889.

Sir:—I have the honor to inform you that there were 571 deaths in this city during the month of December. Twenty-six of those deaths are reported to have been caused by yellow fever, 26 by pernicious fever, 1 by paludal fever, 7 by typhoid fever, 2 by small-pox, 1 by diphtheria, 2 by croup, and 3 by glanders. Twenty-six dying of pernicious fever, while during the same time only 1 died of any other form of paludal fever, leads us to suspect that pernicious symptoms due to yellow fever may have been confounded with those produced by malarial poison. That disgusting and terribly-fatal disease, glanders has caused three deaths during the last month in this city, one of the victims being a private gentleman.

Very respectfully, your obedient servant,

D. M. BURGESS,

Sanitary Inspector Marine-Hospital Service.

To Surgeon-General HAMILTON.

—Weekly Abstract of Sanitary Reports.

PAMPHLETS RECEIVED.

Vance, Ap Morgan, M.D., Louisville, Ky. *Cases in Orthopaedic Surgery.* Reprint from N. Y. Med. Jour., November 7, 1885.

Ibid. *Femoral Osteotomy for the Correction of Deformity from Hip-joint Disease.* Reprint from N. Y. Med. Jour., December 1, 1888.

Jacobi, A., M.D., New York. *Contributions to the Anatomy and Pathology of the Thymus Gland.* Reprint from Trans. Assoc. Amer. Physicians, 1888.

Martin, Franklin H., M.D., Chicago. *The Treatment of Fibroid Tumors of the Uterus by Galvanism, with Cases.* Reprint from THE JOURNAL, January 5, 1889.

Newman, Robert, M.D., New York. *Success and Failure of Electrolysis in Urethral Stricture, Especially Dr. Keves' Method Reviewed.* Reprint from Phil. Med. Times, December 15, 1888.

Corson, Hiram, M.D., Conshohocken, Pa. *Our Hospitals for the Insane Poor.* 1889.

Von Mansfelde, A. S., M.D., Ashland, Neb. *The Causes and Modes of Death from Eclampsia, and their Prevention.* Reprint from Proceedings Nebraska State Medical Society for 1888.

Cutter, Ephraim, M.D., L.L.D., New York. *Food versus Bacilli in Consumption.* Reprint from Virginia Medical Monthly, December, 1888.

Mears, J. Ewing, M.D., Philadelphia. *The Propriety of Surgical Interference in Perforating Typhoid Ulcer.* Reprint from Trans. Amer. Surg. Assoc., 1888.

Kreider, Geo. N., A.B., M.D., Springfield, Ill. *How*

Microorganisms Enter the Body. Reprint from St. Louis Courier of Medicine, December, 1888.

LETTERS RECEIVED.

J. H. Bates, New York; Cincinnati Sanitarium, College Hill, O.; H. Horace Grant, M.D., Louisville, Ky.; J. B. Alexander, M.D., Mason, Ky.; W. Duncan, M.D., Savannah, Ga.; Codman & Shurtleff, Boston, Mass.; H. Longstreet Taylor, M.D., Cincinnati, O.; W. Thornton Parker, M.D., Newport, R. I.; R. T. Henderson, M.D., Jackson, Mo.; A. Ahlborn, M.D., Detroit, Mich.; G. N. Seidlitz, Keokuk, Ia.; O. E. Holloway, M.D., Knightstown, Ind.; Records, McMullin & Co., Philadelphia, Pa.; J. Sterling, M.D., Knoxville, Tenn.; N. S. Hill, M.D., Neville, Ohio; Samuel W. Nelson, M.D., Boston, Mass.; Maris Gibson, M.D., Wilkesbarre, Pa.; G. L. Knapp, M.D., Mount Vernon, Mo.; T. C. Kennedy, M.D., Shelbyville, Ind.; The Laning Printing Co., Norwalk, O.; Richard J. Dunglison, M.D., Philadelphia, Pa.; H. C. Dalton, M.D., St. Louis, Mo.; Miss A. V. Pollard, Louisville, Ky.; F. B. Davison, M.D., Fletcherville, Pa.; W. H. Long, M.D., Cincinnati, O.; Norman Teal, M.D., Kendallville, Ind.; Drs. Y. W., and R. LaGrange, Marion, Iowa; H. K. Cushing, M.D., Cleveland, O.; J. Schnee, M.D., Mt. Carmel, Ill.; Samuel B. Rowe, M.D., Rolla, Mo.; H. R. Rogers, M.D., Dunkirk, N. Y.; Dawson Williams, M.D., London, Eng.; J. C. Caewood, M.D., Knoxville, Tenn.; W. H. Martin, M.D., Urbana, Ind.; C. H. Wilcox, M.D., Berwick, Ill.; Wm. Mauslius Smith, M.D., Mt. Vernon, Mo.; W. T. Keener, 95 Washington St., Chicago, Ill.; Robert T. Edes, M.D., Washington, D. C.; Walter Wyman, M.D., Washington, D. C.; O. D. Haven, Youngstown, O.; Galvano-Paradic Mfg. Co., New York, N. Y.; R. H. Day, M.D., Baton Rouge, La.; Eli Buchand, M.D., Glen's Falls, N. Y.; F. E. Young, Canton, Ohio; I. Haldenstein, New York, N. Y.; W. R. Warner & Co., Philadelphia, Pa.; Lehn & Fink, New York, N. Y.; Dr. Visohoff, Elgin, Ill.; Ernest F. King, C. L. Fox, M.D., Kingsville, O.; H. H. Grant, A. M., M.D., Louisville, Ky.; G. L. Knapp, M.D., Syracuse, N. Y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 26, 1889, to February 1, 1889.

Major L. Y. Loring, granted leave of absence for one month, on surgeon's certificate of disability. Par. 1, S. O. 6, Dept. of Ariz., Los Angeles, Cal., January 18, 1889.

Capt. Curtis E. Price, Asst. Surgeon, leave of absence granted in S. O. 257, A. G. O., November 3, 1888, is extended two months. Par. 1, S. O. 21, A. G. O., January 25, 1889.

Capt. Henry S. Kilbourne, Asst. Surgeon U. S. Army, will accompany Battery E, First Artillery, changing station from Vancouver Bks. to Presidio, San Francisco, Cal., as medical officer, and upon completion of that duty will report to the commanding General, Div. of the Pacific, for further orders. Par. 2, S. O. 6, Dept. of Col., Vancouver Bks., January 22, 1889.

Capt. Henry G. Burton, Asst. Surgeon, leave of absence on surgeon's certificate of disability granted in S. O. 19, January 24, 1888, from this office, is extended six months on surgeon's certificate of disability. Par. S. O. 22, A. G. O., Washington, January 26, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending February 2, 1889.

P. A. Surgeon H. B. Scott, detached from Naval Hospital, Mare Island, Cal., and granted one year's sick leave.

CORRIGENDA.

On line 17, first column, page 134 No. 4 of the present volume, read "buried suture" for "bruited suture," and on line 20, same page and column, read "plastic lymph" for "plaster lymph."

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ADDRESSES.

THE SCIENCE OF SUCCESSFUL SURGERY.

The Annual Address of the Philadelphia Academy of Surgery

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Although I have the honor to appear before you this evening in the role of Orator, and thereby lend my countenance to a time-honored custom, it is not proper to simulate a respect for this useless relic, which I do not feel.

The annual address is a most reckless spendthrift of the time of scientific bodies; equalled in this characteristic by extempore discussions alone. Good scientific work throughout the entire year is better than a long address in January.

With such sentiments, Fellows of the Academy, do I to-night enter upon my theme, with little worthy of the telling.

"What the subject?" has been a pressing question. When I was appointed to this duty for 1881, I expected to detail with complaisant text the surgical advances and triumphs of the preceding twelve-month; but as you know, at the request of the Academy, I gave place to Professor Gross, the elder, who delivered his historic monograph, "John Hunter and his Pupils."

The notes made for that address, seven years ago, would verily seem like echoes from a by-gone generation, so rapidly have the wheels of progress run; and indeed the compendiums, annuals and indexes of recent birth cover such ground too thoroughly for me to attempt a single-handed rivalry.

I shall, therefore, offer you a few thoughts on the Science or Philosophy of Successful Surgery, in the hope of thereby doing a humble share in advancing the purposes of this Society.

True it is that Successful Surgery is the child of those, whose personal labors, fostering devotion and ever watchful eyes have brought it through infantile perils and adolescent temptations to a glorious and noble manhood.

I wish, however, to look to night not only upon the individual traits belonging to these "Makers of Surgery," but to those characteristics which have been developed in the life-history of

this personified Surgery. Successful Surgery, as an individuality, has definite attributes which those of us who can never be makers of anything, must recognize, lest we retard the growth of surgical science and bring obloquy upon our soon-to-be-forgotten names. This art is perennial and will outlive our retrogressive thrusts; hence to save ourselves, we must, under the goad of keener-brained men, struggle to keep pace with her quick strides.

The foundation of much unsuccessful surgery, the cause of much popular distrust in surgical performance, is defective education—whether it be in the collegiate teaching of medical students, in the careless instruction of surgical assistants, or in the improper training of hospital nurses. We are very responsible for such a state of affairs, for there is scarcely a Fellow in this Academy who has not a prominent voice in some school or hospital. Indeed one of the requisites of fellowship is the holding of such a position, or in lieu thereof, the performance of valuable scientific work. Why, then, do we not, individually and collectively, have the bravery to insist upon, and the generosity to aid in, the correction of this wrong. Can we claim ignorance of the fact, that in numbers of medical schools, the sole literary requirement of the raw recruit is the possession of a white skin and a male apparel? Is it news to us that he who knows not the meaning of *gyrus* and *sulcus* sits on the same bench with, and listens to the same words as he whose studies have carried him to the surgical intricacies of cerebral localization?

What hope is there for successful surgery while good men abet such anomalies by accepting responsible posts as teachers in such false temples of learning! What success can we expect from the pupil who sees his masters such embodiments of false logic! Again, how can the student learn surgery without anatomy? How can he learn anatomy without facilities for examining museum specimens and for making dissections, without instruction in the anatomical and surgical landmarks of his own ever-present body? Are not cadavera largely wasted by the pupil who dissects in an anatomical room destitute of skeleton and blackboard and guiltless of the presence of catheter, bellows, or even tanks for washing viscera?

Does any student of medicine ever study the dissected body in the erect posture? How slow must be the march of improvement, until each and every guilty school is proscribed, and the mutilated and maltreated public protected by the State assuming the power of examination and license! How like these days to those in which Hippocrates found the ignorant physician suffering no punishment but disgrace, which it was truly said galled not him familiar with it!

Very faulty also is the surgical instruction obtained by the internes of many hospitals. Fortunately above their brethren who receive no such appointments, but yet unlucky too, if compelled to serve under careless, hurried, or ignorant chiefs! Unsuccessful surgery of after years is often due to imitation, perhaps unconscious, of the faults of a long-dead hospital superior. It is the unwritten duty of the chief to aid in the perpetuation of good surgery by an example of accurate, painstaking and therefore successful work. If he have not time or ability to thus aid patient and pupil, whose interests are truly one, let him step aside for another. The hospital of to-day has no need of the surgical figure-head, however great his name; no room for the bungler, who sacrifices life and prostitutes the high calling of surgeon by inoculating his patients by means of dirty fingers and soiled linen.

An evil influence is exerted also by the selfish hospital surgeon who never permits his junior to do major operations. An intelligent interne gives his time to the hospital, that he may learn. It is, therefore, the chief's duty to give him an opportunity to operate, under the chief's direct personal supervision, be it understood, when the patient's safety and the hospital's rules and interests do not contravene. In homicide cases, in operations whose expediency has not been fixed by general consent, in procedures requiring the well-trained educated touch, such deputizing is not permissible; but we all know that a resident surgeon can justly undertake amputations and many other operations, if we supply the experienced judgment, and guide the successive steps of the mechanical performance. A little less selfishness, a little more generosity on the part of attending surgeons would increase the world's youthful supply of successful operators.

Much otherwise successful work is vitiated by carelessly selected assistants. An assistant who does not know the danger of anæsthesia had better be relegated to the practice of cheiropedy; and especially so, if in addition he be ignorant of the fact that suppuration in an operation-wound is usually the fault of the surgical handiwork.

It has been said that the lucky are never the lazy or incompetent; the unlucky never the valiant or wise. The successful surgeon is largely so by virtue of his own inherent fibre; and the personal equation is a factor deserving considera-

tion in surgical, as in astronomical problems.

The surgeon to attain success must above all things be a man of executive ability and manual dexterity; but to these he must add that care, in details of operations and after treatment, as will prevent the unexpected from defeating the object of his well-planned and well executed handiwork. Absence of executive ability is as conspicuous among those holding surgical posts, as it is in those occupying other positions of trust. A merchant, with too large a contract for his feeble executive grasp, is certainly less ludicrous and pitiable than the surgeon, whose constant appeal for suggestions and whose frequent operative vacillations show that he had no well defined procedure in mind when he made his initial incision. Unexpected difficulties, unforeseeable complications may require operative change, and true regard for the patient may demand professional consultation with the by-standers; but this truth does not condone the fault of a scatter-brained operator, who knows neither what he intends to do, what he wants to do, nor what he ought to do. He is worse than the tyro who shuts his eyes and leaps aside at the first arterial spurt, instead of thrusting his finger tip against the offending vessel's mouth.

Manual dexterity, though inherent in some, may be acquired by most of us, if its seeds are nourished early in life. Give the embryo surgeon a kit of tools, a jig-saw and a lathe; or let him work in the sooty forge of the neighboring blacksmith shop, as did Joseph Pancoast, and you will either develop his sleeping manual skill or prove before college days his inaptitude for a surgeon's work. Can you expect any medical school to make a surgeon of a man who cannot tie a dextrous knot, point a lead pencil, or sharpen a jack-knife?

The practice of ophthalmology, otology, laryngology and gynecology, conduce greatly to the manipulative skill of a surgeon. The delicate touching and the Lilliputian instruments required in cataract extraction, for example, well train the hand for a neat carotid ligation, a successful tracheotomy, or an artistic trephining. Besides that it puts the surgeon in possession of instruments better suited to perform such deeds than the clumsy tools of the ordinary operating case. He is not likely then to select a sword-like scalpel for an amputation, more neatly done with a three inch bistoury. In my own surgical work I find my cataract knife a constant companion; and rarely do an operation without the aid of strabismus forceps.

It must be observed too, that in these qualities of executive capacity and manual skill, there is no aristocracy of talent. The surgeon, as the poet, must be born, not made; but he need not be born of surgical parentage, or even in a surgical atmosphere. I have seen the best surgical work done by young men, who have had no

special surgical opportunities in birth, friendship, or education; while the worst may be seen at the hands of others blessed with every facility of instruction, observation and experience.

Let not the experienced operator, whose well-trained hand obeys with seeming recklessness the decisions of his rapid brain, despise, however, the painstaking care of his less dexterous brother. Genius, we are told, is eternal patience, and the fearless accuracy of the skillful is the reward of well-spent hours.

A brilliant operator without caution and care becomes the unsafe surgeon, whose skill leads to excesses which his lack of care makes unwarrantable. "*Chirurgus mente prius et oculis agit quam manu armata.*" I have no respect for the surgeon who cares more for the number and novelty of his operations than for the welfare of his patients. A record-making surgeon is to be avoided. A little caution would diminish the number of hysterectomies of wombs containing living fetuses, and show us fewer incisions of the pregnant uterus for ovarian cysts! So, care in detail will counter-balance much inferior operative work.

Above all, the successful surgeon is a man of action. Experience and knowledge must be there, but they are of little value without action. Inexperience and ignorance are the parents of timidity and recklessness. To avoid these dangers he must have experience and knowledge, which though power, are mere possibilities until used as a source of deeds. The victory of battle is to the leader who does most, not to him who knows most. The true surgeon often takes the offensive, which is for the intrepid alone; but the weak surgeon falters and lets death come because of his offensive hesitancy. The requirements of aggressive surgery demand a form of inherent moral power absent in many individuals, though, perhaps, replaced by gentler and more lovable qualities. Self-reliance must make the aspirant for surgical honors equal to all his opportunities, for it has been well said that self-trust is the first step to success. He also needs the qualities of that hero in romance who had "the energy of silence, of patience, of the profound strategy which lies in unswerving persistence."

A knowledge of the collateral branches of medicine seems more essential to good surgery than does an acquaintance with surgery to successful medicine. A good physician—I mean a specialist in medical practice—may be almost ignorant of the principles of surgery; but success cannot attend the mere mechanical operator, who knows not the signs of a pyothorax, the clinical and microscopical symptoms of a waxy kidney, or the temperature record of a septic fever.

A professional career may be blasted, too, by the work of a jaded and over-worked body. Surgery requires an alert brain, a quick eye, a steady

hand, a clear judgment; all absent when the machine is habitually worked beyond its limit of endurance. The causation of many inexplicable historical and political problems may be found in the bodily health of some actor involved; and so, the bodily functions of the surgeon are responsible for many of his acts and "mis-acts." It may seem an invidious comparison to say that the surgeon suffers more thus, than the physician; but is not the instant responsibility, often thrown upon him, harder to bear than the less sudden emergencies of the physician's life? The demand for immediate action based upon knowledge, uncalled-for during many previous years, is often appalling to the conscientious surgeon. "*Semper paratus*"—to be always ready—means incessant anatomical and surgical toil. No time to consult digest, lexicon or text-book is given to him who practices emergency surgery. The present exigency often demands instant action without needful instruments and without professional advice. In this respect city surgeons are so fortunately situated, that they often lack the inventive reliance of their country brothers. The latter will make a female catheter of a pipe stem, goose quill, or a straw, or vaccinate a baby with a needle point, while the former sits regretting the absence of pocket-case and lancet.

Again, the brilliancy of a possible success may be dimmed by the surgeon's desire to show the prospective patient the exact degree of danger incurred in an impending operation. Indeed it is possible that some of us may be over-zealous in showing the disadvantages and dangers of operation in otherwise hopeless cases. The laity cannot see, under such circumstances, the future horrors of a prolonged life; and how far the present risks are to be assumed should, perhaps, be decided by the surgeon. This is, to my mind, one of the most wearing responsibilities of surgical life. When to urge and how strongly to urge operative procedures are often harassing conundrums. While thoroughly willing to undertake the most desperate operation, the surgeon finds a severe mental strain in the conscientious endeavor not to unduly encourage the assumption of such risks, and at the same time to give all that surgical science makes available for human suffering. The proper decision of this question has a direct influence upon personal and scientific success. Rashness and importunity in advising operations are always to be deprecated. The true surgeon never wants to operate, but is always ready when operation is justifiable. A mere cutter is neither a surgeon nor a humanitarian.

The successful surgeon is he of a discontented spirit; who courts criticism and fears it not; who criticises himself as cruelly as he judges others; who reviews his own deeds with a keen eye, with no tolerance for the bungler because he must say "*homo sum*." He has opportunity to

see errors in his own work invisible to any looker-on. Let him search these with careful scrutiny, not covering them with self-complacency. It is said that the wound of a friend is sweeter than the kiss of an enemy; hence, one can well afford to hurt his own self-esteem, since success attends such suicidal policy. Open to conviction must he be, not disdaining to learn from his superiors even if they be his rivals or his juniors. The ungenerous rejection of such knowledge and instruction argues self-conscious inferiority, or at least the absence of the security of conscious power. That the sun fears not the rival light of the new-born moon should be remembered both by institutions and individuals.

An important adjuvant to success in operative surgery is rapidity of action without flurry. "Ohne Hast, ohne Rast," the poet-philosopher's dictum well applies to surgery. Nimble brains and fingers are the surgeon's best equipment for operative perfection and success. To occupy five seconds in opening a felon, without anæsthesia, when two seconds is sufficient, is butchery. The witless apprentice knows that you can drive a nail effectively with a quick blow, while many times the power slowly applied is ineffectual. Surgery shows similar illustrations of the advantage of celerity. Want of this surgical alacrity is painfully evident even in those coming to post-graduate schools after years of professional practice. To be sure it is partly inexperience and ignorance, but much of it is mental lethargy. Such men are not fitted for surgeons.

The general standard of surgical excellence is lowered, in my opinion, by the unwarrantably high fees exacted at times by recognized leaders. Such fees compel the public to accept inefficient, though cheaper service, with a corresponding depreciation in the reality of surgical success; and at the same time indicate a failure on the surgeon's part to recognize the humanitarian side of professional life. No just man will charge more than his services are worth, because the patient is rich, any more than he will pay a pecuniary commission for consultation practice brought to his door.

What are the characteristic attributes of the personified Surgery of to-day, which make it in the eyes of the world almost an exact science; certainly thus exceeding its sister, Medicine.

Simplicity, accuracy, and certainty are the tripod upon which has been reared a wonderful structure of successful progress and aggression.

Its simplicity resides in its methods as well as its instruments. Contrast the simple and unvarying dressings, applicable to dissimilar conditions, of modern aseptic surgery with the former multitudinous formulæ, varying with the location of disease and the caprice of the individual surgeon. Then, each surgical condition had its specific application, and each surgeon his opinion

as to the best application for such condition. Now, though there be preferences as to therapeutic means, the number of admissible formulæ is small; and personal differentiation made for varying conditions almost unknown. The simplicity and uniformity of pharmaceutical preparations for internal medication would be incredible to the chirurgical polypharmacist of the last century. Absence of surgical complication and our accurate knowledge of physiological therapeutics have now reduced the surgeon's needs in this direction to a ludicrous minimum. A few ounces of ether, a few grains of corrosive sublimate or hydronaphthol, a few strands of catgut, plenty of boiling water and a piece of soap, constitute the pharmaceutical essentials of an extensive operation; and many surgeons do perfect work without the mercury or naphthol. This seems, indeed, a travesty of the outfit of Ambroise Paré or Baron Larrey.

Thus also is simplicity apparent in the construction of instrument and apparatus. Mechanical complication may be permitted, is, in fact, necessary to accurate performance, in wood and metal, but it cannot replace manual dexterity in operations upon the changing and ever-varying living body. The attempt to substitute mechanical complexity for surgical skill, in operative methods and surgical appliances, dwarfs the surgeon's mental and manual development, increases the liability to mishap, and defeats his object, the best manipulative service to the diseased or injured patient.

I would not be understood to underrate the importance of properly made instruments or the disadvantage of inefficient ones. A poor workman is said to find fault with his tools. The counterpart is equally true, that a good surgeon never has poor tools. And yet, has any one of you ever had a trephine re-sharpened after successive operations have blunted its virgin teeth? Have you not often accepted from your instrument maker a gnawing forceps without a keen edge? Do you not know that chisels and scissors are proverbially as dull as a Bæotian shepherd? Such negligence, however, is venial; but a gimcrack lithotome or a safe-cutting skull perforator, warranted not to do harm in the clumsiest fingers, is a complicated abomination, deserving the reprobation of every surgeon who knows the location of the bladder and who has been taught to make an incision. A skillful surgeon is known by his deft fingers and few tools. To be equally deprecated is the manufacture of retroflexed, anteverted, doubly-twisted, and otherwise specially moulded splints, guaranteed to overcome muscular displacement that never occurs, or named after men who never recommend them. Such measures to replace the surgeon's brains by specially labeled appliances to suit every condition, is a plagiarism of the homœopathic globule-

case with its numerical antidote to every human ill.

Complexity is allowable only when skill and simplicity fail to accomplish the necessary purpose. Permanent traction with adhesive plaster has succeeded the Desault splint for treating fractures of the femur. Let similar simplicity as successfully reign in all departments! The revolution has more than begun. May it be completed by American surgeons rejecting still other legacies of European combersomeness!

Accuracy is another factor of extreme importance in the evolution of successful surgery. The "rule of thumb" may be allowable in the culinary department of the household, but not in the diet-kitchen of the hospital, nor in the dosage or operative work of the surgeon.

Surgeons are especially inaccurate in their pathological knowledge, and this alone has added many unsuccessful cases to surgical history. Accurate pathological study, accurate and discriminating diagnoses, accurate and perfect operating, done with a hand that never trembles and a heart that never quails, will give us success to rival that already obtained in these marvelous latter days. This admirable state of science, however, cannot be reached, while professors affirm to their classes, that excised portions of nerve are enlarged or inflamed, when they themselves know nothing of its usual appearance except as seen in the shrunken indurated cadaver; while men persist in operating upon what they call "Empyemā," or prescribe doses of that non-existent remedy "Sulphate of Cinchona." Is it unreasonable in me to decline to submit my body to operation at the hands of a man, who speaks of wounding the *peritonæum*; or who defines breakbone fever as the fever that occurs subsequent to fracture? I believe accuracy to be the daughter of knowledge; and conclude that a slipshod daughter argues little for the quality of her mother. Until more definite diagnoses than pelvic cellulitis or constipation are made, when pyosalpinx or strangulated hernia exist, surgery cannot expect to rival the exactness and precision of the higher mathematics. It is said that surgery is not an exact science. "Alas! too true" replies the average surgeon, and on he goes, with cool complacency, in his well-worn path of indifferent inaccuracy.

I know of no greater need of accuracy than in the compilation of statistics. Many otherwise trustworthy men assure us of their ratio of successes or failure by reference to their unaided memory, than which there can be no more treacherous guide. I recently read an article, in which it was stated that resort had never been made by the author to a certain operation, because a more effectual and better procedure had been adopted by him; and yet, I myself had seen him use the very expedient which he denied, and of which

the recollection had been blotted from his untrustworthy memory. The inaccurate statements of the clinical amphitheatre well enforce the axiom that, if speech makes the ready man, writing is required to make an accurate one.

Accuracy of knowledge, however, avails little, unless seconded by accuracy of performance. Ligation of the brachial plexus is not likely to cure aneurism of the axillary artery, nor division of bands of cellular tissue certain to correct strabismus due to hyperopia; a stone in the bladder, moreover, will certainly elude the grasp of the surgeon who pushes his forceps between bladder and rectum. Similar errors have been committed, gentlemen—not by you, perhaps, but certainly by me. It is unpleasant to admit it, I know, but if conviction of sin be the first step toward salvation, the admission of incompetent surgery is the beginning of surgical success. Because I once treated a thyroid luxation as a fracture of the femoral neck, and again made a hole in the sclerotic when doing a tenotomy of the internal rectus, I ought to be more competent to treat those conditions, than the wise man who never thus blundered.

Accurate operating demands well-made, keen and simple instruments, but even these, as I have previously said, require the guidance of a deft hand. By such a hand I have seen a creditable cataract extraction done with an abscess bistoury and an ear-pick.

The crowning achievement of modern surgery is its certainty of result. The simplicity of its detail, the accuracy of its doctrine and the dexterity of its exponents, have combined to render the prognosis of operative cases almost prophetic. It is not many years since the mortality of amputation of the thigh and that after resection of the knee was appalling, since trephining was dreaded as a mortal operation, abdominal section almost eschewed, and ovarian tumors looked upon as incurable. Need I weary you with speech concerning these operations to-day?

Few of you will dissent from the statement that in wound-surgery certainty of success depends on the thoroughness with which the maxims of asepsis and antisepsis are carried out. Not many years ago this was a mooted question in the meetings of this Academy. To-day it is an unquestioned surgical truth. The advocates of aseptic surgery were at first derided; but truth can afford to wait, and they, believing they had found the truth, waited. It was a repetition of the trust of the old astronomer, who declared he could well wait a hundred years for a reader, since God had waited a thousand years for an observer. It has been, and still is, difficult to convince the septic sceptic of this decade that the dirty finger-nail is more potent in its deadly work than the iron nail of Jezebel, that it has slain more than the dreaded yellow fever and cholera;

and that the aseptic cleanliness of the surgeon is better than the so-called godliness of the Christian scientist. With all reverence I declare that the clean hand is more necessary to the successful surgeon than the pure heart. The fingers of a dentist may be clean enough to put into a lady's mouth, and yet be too unclean to operate upon her body. Let a surgeon cough or sneeze in a patient's face if he please, but he dare not into the opened abdomen. I believe my years are less than those of any other Fellow of this Academy, yet, I am not so young but that I have upon my shoulders the responsibility of death due to my ignorant prejudice or filthiness. The occasional rapid healing of operation wounds was attributed by me to constitutional beneficence of the patient, instead of to accidental cleanliness of the operator. Perhaps it is this consciousness of dereliction which makes me feel so strongly the error of those who reject the relative certainties of aseptic practice. While I am not a disciple of those who make a fad of chemical antiseptics, while I care not whether a man make himself, his patient and his apparatus aseptic by soap, water and heat, or by those agents associated with chemical solutions; I do not assert that he who believes all such precautions unnecessary and who acts in accordance with that belief, is dangerous to the community, and has no right to practice operative surgery. One who shoots his friend with an "unloaded" musket levelled at his head, is considered a fool and exposed to public condemnation. If the septic surgeon who inoculates his patient with fatal disease be similarly treated, the world's misery will be much lessened. The old time abolitionist believed that one on God's side made a majority; surely the surgeon who believes in non-septic operations is on truth's side, which is always God's side. A devotee to the religion of asepticism, of even mediocre skill, will do the world more good service than a septic genius, who to the experience and wisdom of a John Hunter, adds the manual skill of a Robert Liston.

If writers and speakers would cease quarreling about asepsis and antiseptics as words and realize that it is facts, not definitions or theories that demand attention, there would soon be such a combined army of non-septic surgeons that the septic murderer would cease to exist. It is the wrangle as to whether cleanliness without chemicals is better than chemicals alone that retards the wheels of progress. I hear men declare that strict cleanliness is unnecessary, if solutions of chemical antiseptics are employed; I hear others say that they get good results from cleanliness without antiseptics, when it is evident from their actions and work that they know not the meaning of surgical cleanliness, nor the characteristics of aseptic repair. These abortive attempts at non-septic surgery are most damaging witnesses

against the true system, since the sceptical point to this wilful or ignorant carelessness of detail as evidence of the uncertainty of surgical success.

Much has recently been said, in this city, as to the legal responsibility of those who, neglecting to accept the comparative certainty of non-septic surgery, subject their patients to the greater risk of septic complications attendant upon operations done in the old manner. The importance of this topic and the manner in which I have been involved in its discussion are my excuse for dwelling upon it at length.

Justice Tyndall declares that undertaking to practice a profession is the assumption of an obligation which, though implied, has at the same time all the force and validity of a formal contract; and Stephen Smith, who quotes this opinion, says that the maxims of aseptic and antiseptic surgery have been so generally approved and adopted by surgical authorities, that they must now be regarded as established principles of practice. Hence, if a surgeon fail to apply these principles with reasonable care and diligence, he may justly be held responsible for unfavorable results which the aseptic methods of treatment would have prevented. Smith even goes further, and contends that a surgeon would also be responsible for neglect, if he declined to resort to an operation, capable of affording relief, because of its danger under old methods.

The surgeon may, it is true, decline to undertake any case; but having accepted the trust he is responsible for the results of treatment. Prof. S. W. Gross is reported to have said: "As to aseptic surgery, I can only say that if any one has been taught the modern methods and neglects them, and death occurs from erysipelas, pyemia, or septic complications, he cannot be held irresponsible."

Dr. Busey is quoted to have stated his opinion of antiseptics in midwifery as follows: "Inexcusable neglect, and inefficient and careless administration of the well known rules and recognized appliances of obstetric antiseptics must, in view of their admitted value, be regarded as criminal."

My personal view is very much in accord with these sentiments, for I consider the surgeon who does not practice in accordance with the principles of modern non-septic surgery a menace to the health of the community. Though I care not for the size of his doses or the variety of his remedies, which must depend upon individual requirements and professional choice, I can allow no such latitude in the rejection of such generally accepted truths as those of which I now speak.

Amputation of a finger-tip may possibly be permissible with a dirty scalpel and dirty hands, though I question it; but certainly no one should be allowed to amputate an arm or a leg under such conditions of risk. He who, from prejudice

or inexcusable ignorance, performs such an objectionable operation may, or may not, be legally responsible if fatal pyemia occurs, but I am inclined to think that he is. At any rate it would be wise in him not to call upon me as a witness in his defense. These opinions may increase the already heavy responsibility of the surgeon's life; but, on the other hand, the greater certainty of success should insure him larger fees and greater satisfaction.

My own practice is to first endeavor to obtain absolute cleanliness of patient, operator, assistants, instruments and dressings; and then, on account of the difficulty of attaining perfection in this regard, to employ, as a rule, chemical antiseptics as an additional safeguard. There is no question in my mind that cleanliness is the more important element in my success at preventing suppurative accidents. Still, accidental failure in absolute cleanliness or incidental carelessness on the part of myself or assistants is liable to be followed by such disaster that I usually, though not always, prefer the association of cleanliness and antiseptic solutions. Moreover, septic or specific inoculation of the surgeon's own hands is unlikely to occur when they are bathed in germicidal agents.

The genius of successful surgery has led to unexampled and unexpected progress; for aggressive surgery is the outcome of the success that has followed the adoption of aseptic carefulness. Before the aseptic era aggression was often sheer recklessness, and led, therefore, to a reactive conservatism which still holds dangerously captive many intelligent surgeons of the older school. Conservatism is, up to a certain point, a public virtue; but when it becomes a stubborn resistance to the certainties of scientific progress and to the conviction of statistical argument, it is a dangerous mental attribute. The self-styled conservative has been well described as a man who waits for somebody else to tell him what to do and how best to do it. He who will not be convinced by irrefragable proof is as unworthy the name of surgeon as he who accepts every wild unproved hypothesis for an axiomatic truth. I fear there are to-day surgical counterparts of the old Scotch Professor of Chemistry who described Sir Humphrey Davy as "a verra troublesome person."

The continued life of the erroneous teaching of old text-books and old-brained expositors of whatever age perpetuates this same mischievous conservatism. The progress of ophthalmic surgery was much retarded by the retention for years of the old literature relative to diseases of the fundus. After the invention of the ophthalmoscope this literature ought to have been destroyed, as we pull down the log cabin to make room for the city mansion. So it is now in general surgery; the retention in text-books of opinions and statistics, formulated ten or fifteen years ago, retards the progress of the art and confuses the con-

scientious student. Mortality records compiled before the aseptic period are absolutely valueless, and as unworthy of present consideration as the chapters on pelvic cellulitis penned a few years since. Why not let all this musty literature be destroyed; and by learning from the recent work of both old and young, keep in line with the quick step of surgical advance. The elder may, it is true, guide the younger for a time, but it is to the bright and buoyant hope of youth that we owe that aggressive progress which has carried us so far, that we may dare much and hope everything. Has it not been the young who have advanced our surgical knowledge of the heart, brain, spine, pancreas, kidney and abdomen? The old who led in their young days are in turn distanced by youth, even though they be open to conviction and ready to advance. In surgery as in other sciences, "*quod hodie exemplis tuemur, mox inter exempla erit.*"

Active medical associations, accessible museums and convenient reference libraries are efficient aids to successful surgery. Little good arises, however, from the perpetuation of mutual admiration societies of limited and lazy membership, of associations of garrulous and inexact observers, of unclassified museums with unlabeled specimens, or of libraries whose books are buried in hospital wards or shut up in rooms with long-lost keys.

Of all public adjuvants to successful surgery the hospital is preëminent, but in proportion to its power for good is its fateful power for evil. The best surgery in the world is done in hospitals, because the best nursing, the best hygiene, the best surgical talent can there be obtained. It is undoubted, however, that the best place to see the worst surgery in the world is often the hospital. Errors of judgment, silly modes of dressing, unjustifiable operations and ignorant pretense are at times to be found in such institutions.

Truth was spoken by the writer who stated that in hospitals might be seen the most palpable and deplorable errors openly and shamelessly committed. This denunciation should not be hurled against all hospitals and all hospital surgeons; but though a ward's inmates often get far better surgical attendance gratis than many of the rich pay for in their own homes, it is an undoubted fact that much bad surgery can be seen in public institutions. This is due to the fact that an inefficient or reckless surgeon is encouraged to assume responsibilities, under institutional protection, which he would shun, if exposed to the glaring light and searching inspection of private practice. Whenever the appointing power in hospitals is lodged in laymen whose vote is determined solely by the solicitous words of other admiring laymen, there is possibility, at least, of surgical posts falling into the hands of unfit persons—unfitted by education, training, and experience for the assumption of surgical responsibility. It does not follow that the agreeable friend

of a fellow bank director knows the location of the cerebral centres or the most approved after-treatment for amputations. Yet many hospital appointments are made on this basis. If such officials could easily be displaced by a changing administration, harm might soon be averted; but it is notorious that the more incompetent one is, the more firmly does he maintain his grasp upon attained power.

In certain particulars we could improve our hospital service by adopting measures much more common abroad than in America. The rule retiring all surgeons upon their reaching the period of life denominated senile, is a good one. The conservatism and infirmity of advancing years are usually evident to all other men before their gradual advent convinces their possessor of his inadequacy for onerous hospital duty. Affection, and respect for age, however praiseworthy in the abstract, do not justify the ruthless sacrifice of true surgical success. He who is incompetent, from disease, age, vice or ignorance, to attend to the surgical needs of the hospital authorities themselves is not competent to take in hand the lives and limbs of their pensioners. Worthy of all praise are the many institutions in which these views dictate action!

A continuous service, instead of the usual three or six months' service of the conventional American hospital, is perhaps the rule in European institutions; it has been advocated here. I have personally objected to it on the ground that, with the resident staff organized as at present, few surgeons with practice enough to warrant appointment could afford time throughout the entire year to properly attend to hospital work. It would be very different if in each hospital there lived a house surgeon of several years' experience, who could do emergency operations and decide ordinary surgical problems. Then the attending chief surgeon need not drive several miles to see a sprained ankle or abscess of the breast, or be dragged from his bed at night to catheterize a distended bladder.

Indeed, metropolitan growth is such that hospitals often become so distant from residential centres that it is difficult to secure men of prominence and experience to serve them. This difficulty can only be met by attaching a competent house surgeon to such hospitals, or by paying an annual salary to the better equipped attending surgeons for their loss of time. The superintendent, matron, and apothecary are paid, while the physician and surgeon, without whose work no hospital could exist, serve without remuneration. The mutual relation of distance, efficiency and salary will ere long become important problems for hospital trustees.

In spite of my apologetic prologue I have detained you now too long with this rehearsal of trite and familiar truths; but, fortunately, not so

long as it has taken my unworthy pen to formulate them. My words may perhaps simulate an essay on Unsuccessful Surgery. Still, the precepts of successful living are given in the negative imperatives of the Decalogue. May not those of Successful Surgery assume a similar form?

A great English surgeon has recently expressed the opinion that the final limits of surgery have been reached, in the direction of all that is manipulative and mechanical; and that we have attained, in many of our most important operations, the final limit to which surgery can be carried. Need it be said that he is an old man? Surely this is not the conviction of young minds. Have not surgeons recently made artificial pupils in the sclerotic to relieve heretofore irremediable blindness? Do we not know that the latest vivisectional experiment has successfully constructed a new urinary bladder of previously excised intestine?

The flame of progress must never be extinguished by hopeless inaction; but ever cherished by successive lovers, imitating the fleet Grecian whose quick hand snatched the flickering torch from his weary comrade's feeble grasp.

The successful future of chirurgical art will still progress, and will, as now, depend on accurate anatomy, careful though ludicrous cleanliness, facile fingers and erudite common sense. Gentle, kind and true in the doing, reliant, bold and firm in that done must he be, who is to aid in the advance towards that surgical perfection which it is intended we shall never reach.

ORIGINAL ARTICLES.

SUPPURATIVE PERITONITIS; ITS DIAGNOSIS AND MEDICAL TREATMENT, WITH THE LIMITATIONS OF THE LATTER.

Read before the Fort Wayne Academy of Medicine, Fort Wayne, Ind., October 22, 1885.

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The subject forming the topic of the discussion which I have been invited to open to-night, may be safely said to embody some of the most important as well as some of the most difficult problems in practical medicine now presenting themselves for solution. It will be impracticable, as well as, in my opinion, inexpedient to absolutely limit the discussion to the suppurative form of the disease. For there will be in many cases a transitional period during which the treatment will have to be conducted with reference to a possible suppurative process, which cannot be diagnosed with sufficient precision to justify the radical methods that such a diagnosis would entail. In others, again, certain etiologic facts will de-

termine the suppurative character in advance of symptomatic indications. The preliminary consideration of etiological conditions, therefore, seems to me desirable if not necessary to an intelligent comprehension of therapeutic indications.

In considering its etiology we may start with the proposition that there is no such thing as "idiopathic" peritonitis. When we cease the futile attempt to shield our ignorance beneath the gauzy "idiopathic" or "essential" cloak, it will be a "red-letter" day in the history of medical progress. The traditional influence of "cold" may also be set down as a probable myth. It may also be doubted if traumatism alone is an efficient cause. If it were so every case of abdominal section, or puncture of paracentesis should be followed by peritonitis; a proposition too absurd to be considered. If traumatism and cold are ever important it is when taken in conjunction with the essential causes of the disease. Those extensive traumas which are so uniformly followed by peritonitis are generally associated with other conditions which are rendered active by the trauma; yet we must bear in mind the experiments of Pernice, published last year, which seem to show that continuous aseptic irritation may give rise to sero-fibrinous peritonitis. The results following the introduction of microorganisms into the peritoneal cavity seem to depend upon a variety of circumstances. Thus Grawitz has shown that an injection of schizomycetes, or staphylococcus aureus, if contained in an unirritating medium, will not produce peritonitis. The presence of stagnant fluids, denudation of the epithelium, and fecal distension of the bowel, with the consequent disturbance of circulation, are among the determining causes of their productive activity. Of course suppurative peritonitis is quite impossible without the introduction of one of its special microbes.

On the other hand Wegner has shown that ordinary fluids, such as serum, bile, and even urine, are not alone sufficient to cause the disease. Indeed it is being shown that the peritoneum, with all its traditional vulnerability and intolerance of invasion, has under the most favorable conditions, a remarkable capacity for disposing of foreign products. The exact quality of the foreign matter seems to be a subject of much less concern than the quantity; for if the latter be not too large to be encapsulated or absorbed within an hour, or thereabouts, peritonitis will not result.¹ Even pure cultures of the specific germs of suppuration if not too great in amount, or mixed with irritating material, are disposed of without peritonitis.² Cholera bacilli and even fecal matter may be disposed of in this manner.³

For all practical purposes peritonitis may be considered as caused by microorganisms rendered

operative by local disturbances, such as blood stasis, stagnant culture media in the peritoneal cavity, or traumatism however slight—*c. g.*, the puncture of a needle. While exceptions are possible they are too rare to be of consequence, and in the present discussion are entirely devoid of interest. It is, furthermore, in the vast majority of cases, consecutive to infectious disease of some other tissue or organ, generally contiguous but possibly remote.

The differential diagnosis of suppurative peritonitis is in many instances a problem the difficulty of which is only exceeded by its supreme importance. To determine the presence or absence of peritonitis is ordinarily not a difficult matter. Yet even here in exceptional cases nearly every symptom may fail us. Take the symptom pain which is so prominent in most cases. In certain cases of the gravest character, and especially where suppuration is present, pain may be entirely absent.⁴ Temperature is notoriously inconstant, seldom greatly elevated, while even in grave cases it may be normal. Evidently upon these two symptoms little reliance can be placed. Constipation is probably more constant and is said by Alonzo Clark to be absolute in uncomplicated cases. This is probably true in general peritonitis after the first 24 or 48 hours, when paralysis of the bowel supervenes. Tympanites is usually a pretty constant factor, due to the same cause as the constipation, and fermentation of intestinal contents. Liquid effusion may also be recognized by percussion in the dependent parts in a certain proportion of cases.

Now, considering this complexity of symptoms, in a case primarily non-suppurative, upon what can we rely to indicate the transition to, or the supervention of the suppurative process? Or, given a case of peritonitis, how shall we determine whether it is one or the other? The symptoms which contra-distinguish suppurative from non-suppurative peritonitis are neither many nor very reliable. They are in general the symptoms that stamp an extensive inflammation elsewhere as suppurative or non-suppurative. In the pleural sac we know that the aspirating needle is the only method of determining the question with any degree of certainty, and sometimes even of probability. Many cases of peritoneal effusion will present themselves which can be decided in no simpler way. Unfortunately, however, the method is not so generally available as in the pleural sac. Kronlein says⁵ that when the exudation lies behind the mesentery or intestine that aspiration is admissible. But the natural tendency is for it to assume precisely this relation, with the patient in the dorsal decubitus, which is almost invariable in this disease.

So far as symptoms are concerned the absence

¹ Grawitz Annals of Surgery, v. 5, p. 121.

² Ibid. ³ Ibid.

⁴ Loomis, Goodhart.

⁵ Annals of Surg., June, 1887, p. 529.

of pain has been mentioned as more likely to occur in the suppurative form of the disease. Loomis says⁹ that typhoid symptoms are present from the onset of suppuration; that delirium is the rule; and that rigors are common. But the concurrence of opinion is that the diagnosis is not so simple as these statements would lead one to think. Typhoid symptoms, with delirium, present themselves in non-suppurative cases, while rigors, which would be of great value if uniformly present in the suppurative form, are frequently absent. Where this combination of symptoms is present, of course suppurative peritonitis can be predicated and safely announced. The occurrence of irregular chills alone should be regarded as strong presumptive evidence that suppuration has occurred.

In another pretty large class of cases of peritonitis, resulting from perforation of some of the hollow viscera of the abdomen, the differential diagnosis from simple adhesive peritonitis becomes, as a rule, more easy. But it is the symptoms of the perforation, rather than of the peritonitis, that aids in the diagnosis. The knowledge of the pre-existence of lesions of abdominal or adjacent organs which are prone to this accident materially aids the diagnosis. Under such circumstances the occurrence of acute localized abdominal pain, with a frequent quick small pulse, anxious face, and contraction of the abdominal muscles, ought to suggest a condition which, if it do not prove fatal from shock, will be speedily followed by suppurative peritonitis. The difficulties, however, are frequently very great, and even where the symptoms are very pronounced it may be impossible to distinguish perforation from obstruction. Thus, in seven cases operated upon by Truc, LeFort, Kronlein, Polaillon, and Miculicz, with a diagnosis of obstruction, in no less than five was the condition found to be perforation instead. Fortunately the first steps of treatment are the same for each.

Suppurative peritonitis must be regarded as an exceedingly fatal disease. Kronlein says that it is difficult to say whether the diffuse variety is ever recovered from or not, as the diagnosis lacks confirmation in the reported cases. There is anatomical proof found in the dead-room that intestinal perforation is sometimes recovered from, although it may be doubted if there was fecal extravasation in those cases. Even if recovery is possible it is so confessedly rare that death may be regarded as the rule, from which there have heretofore been very few exceptions.

The treatment of suppurative peritonitis has undergone a revolution. When once fully recognized it passes from the domain of medicine to that of surgery. The time-honored surgical dictum that "wherever pus is found it should be

evacuated," no longer finds an exception here. Whether it is acute or chronic, general or local, puerperal or non-puerperal, consecutive to surgical operations or accidental trauma, it is still, if the patient has vitality to endure the ordeal, a case demanding surgical procedure.

During the inceptive and developmental stage of most cases that finally become or, perhaps, rather, are finally recognized as suppurative, medical treatment is alone to be considered; and upon its judiciousness may often depend the necessity of a surgical operation.

The use of laxatives, and especially salines, has been urged upon the profession by Tait, Wylie, and others. The suggestion originated with Tait, not as a treatment of peritonitis at all, but within a few hours after an operation to prevent rather than cure the disease.¹⁰ Dr. Wylie first uses enemata to overcome the tympanites and vomiting, and if these fail, a quick purgative. Others advise the production of free watery discharges by the concentrated solutions of salines, thus using the bowels as an emunctory to drain off the serous fluid from the peritoneal sac. (Kelly.) Considering the extremely prejudicial effect that large fecal accumulation would have upon inflammation of the serous covering just outside of it—possibly converting a sero-fibrinous into a purulent one, by producing blood-stasis, and thus favoring the migration of microorganisms through the intestinal wall—an efficient laxative at the onset would seem to be entirely rational in a large proportion of cases.

But when we are offered the laxative as a substitute for the opium treatment, which itself produced another revolution in the treatment and prognosis of peritonitis half a century ago, we must certainly pause and survey the evidence. The first thing that impresses one is, that the advocates of this method have turned a back-somerset and landed in the middle of the second quarter of the century; all of which may be proper enough, for valuable facts are often forgotten in one age to be rediscovered in the next. "Cremor tartar" and jalap was the treatment recommended in 1830 by Eberly, whose teachings were dominant at that time. Purgatives were used on all occasions, throughout the disease. It was fondly hoped, and by many believed, that if the intractable constipation should be overcome the disease would be cured.

About this time Professor Alonzo Clark earned the gratitude of mankind and a niche in the temple of fame by discovering and developing the opium treatment, which was at once recognized by the leading men of that day as a revolution in the therapeutics of peritonitis, robbing it not only of its pain, but by common consent of a large share of its fatality. These are matters of history. Are salines so much more potent now than when

⁹ Page 326.

¹⁰ Eberly, New York Medical Record, Jan., 1880, p. 127; Annals of Surg., Jan., 1887, p. 27.

¹¹ Dis. of Ovaries, page 308.

given by Eberly? Even after the introduction and full sway of the opium treatment purgatives were still resorted to by Meigs and others for the purpose of relieving the tympanites, and no longer than a dozen years ago Bauer found it necessary to announce, in a systematic treatise,¹⁰ that they had finally become useless for meteorism and constipation and completely given up. In the reaction against the purgative treatment, it is quite possible that the other extreme was reached, and that it deserves more recognition than it has received; but when we are asked, as we are by a few, to adopt it and condemn the opium treatment, all in one breath, I insist that the burden of proof rests with those who ask it, and that sufficient evidence has not yet been presented. Dr. Wylie asserts in one sentence that the opium treatment is harmful, and in the next that he gives sufficient opiates to keep the respirations down to 16, and in some cases to 12.¹¹ When we remember that Alonzo Clark only advises holding the respirations down to 12, it will be perceived that Dr. Wylie comes astonishingly near carrying out the opium treatment which he condemns. Dr. Bantock, whose opinion is certainly entitled to great weight, has no faith in any benefit to be derived from salines in peritonitis.¹² Perhaps, as Dr. Wylie suggests, many of the cases which have been placed in this category are not cases of peritonitis at all. In such cases laxatives would not only be admissible, but ought to produce the most happy results by clearing out the *prima viæ* of feculent or septic matter, or possibly both. Whenever surgical interference becomes necessary, as it will if suppuration occurs or, having occurred, is recognized, the general principles governing the medical treatment will not differ from those which were proper before. There is one class of cases in which laxatives are peculiarly dangerous. In cases of ulceration of hollow abdominal viscera peritonitis may result before perforation takes place. Habershon reports five cases, for instance, in which the peritonitis was the result of incomplete typhoid ulceration, and such cases are probably not exceedingly rare.¹³ Adhesion is at once its cure, and the safeguard against perforation. To administer a laxative, and produce active peristalsis, which would be very liable to break up the newly formed adhesions and perhaps at once produce perforation, needs only to be mentioned to be condemned.

Tympanites demands especial attention, as it may, in extreme cases, alone prove fatal. Clearing out the bowels at the onset of the disease will modify one of its causes. The principal one, however, paralysis of the bowels, remains and is constant. Turpentine or assafoetida enemata may sometimes be of service. The rectal tube may

also be tried, but its occlusion by fecal matter, and other difficulties, will probably render it futile. If these simpler methods fail, the quasi-surgical procedure of puncturing the bowel with a fine trocar deserves attention.

Puncture of the bowel was probably first practiced by DelaFont, of Geneva, in 1697, and since then by many observers, among whom are Boerhaave, Mothe (1811), Zang (1818), Roche (1835), Teale (1845), Hicks (1869), Allbutt (1869), Risdon Bennett (1871), and many others.¹⁴ In many cases it has undoubtedly saved life, but is not entirely devoid of danger, as fecal extravasation or considerable hæmorrhage may possibly follow. If the point of the trocar is sufficiently fine and sharp, the tissue of the gut is separated rather than cut, and closes up after the withdrawal of the instrument.¹⁵ It is probably needless to remark that it should only be done under the strictest antiseptic precautions. If it fails or is not deemed advisable, laparotomy is the only resort, and should be advised whether the case is suppurative or not.

Peritonitis complicating the puerperal state is fortunately becoming more rare, and is probably entirely preventable. It is so formidable, and its causal conditions so distinctive, that it is entitled to separate consideration. The first thing which should be done is thorough irrigation of both the vaginal and uterine tracts with a mild disinfectant solution. Since so many deaths have resulted from irrigation with mercuric chloride, I have entirely abandoned its use in these cases, and wish to enter a solemn protest against its further employment. A 1 per cent. solution of carbolic acid has very little toxic properties, while a boracic acid solution is probably entirely free from this danger. Whether the germs in the genital tract are destroyed or not the irrigation washes away the septic fluids with the larger proportion of the microorganisms, while those which remain are inhibited by the mild disinfectant used. At any rate, however desirable it may be, complete destruction of the germs, especially if spore-producing, is impossible with any solution that is not destructive, or at least very harmful, to the tissue. This treatment, conjoined with the opium *régime* and a preliminary evacuation of the bowels, if they have not already been well cleared out, can be followed for about twenty-four hours,¹⁶ when, if the symptoms of peritonitis have not subsided, laparotomy should be considered. Tympanites and effusion constitute the main indications for operation. Here it must be borne in mind that it is not every case of puerperal septicæmia that is peritonitis; and this not even when associated with tympanites. It is well known that extreme tympanites occurs in the puerperal state independ-

¹⁰ Ziemssen, v. 5, p. 260.

¹¹ N. Y. Record, March 19, 1887, p. 319.

¹² Journ. Am. Med. Assoc., December 17, 1887, p. 792.

¹³ Pepper, v. 2, p. 1,130.

¹⁴ London Lancet, July 10, 1887.

¹⁵ Jobert, quoted by Ogle, Lancet, Ibid.

¹⁶ Bouilly, Annals of Surgery, v. 5, p. 27.

ent of peritoneal involvement, or infection from the genital tract. I have myself seen several such cases, and remember one in which the distension was enormous and apparently serious for several hours after confinement. Its rapid and complete disappearance in a few hours without other symptoms proved that it was not associated with either peritonitis or genital infection.

The point that I wish to make is, that unless operation is undertaken for the mechanical relief of distension, which, as above stated, may be required, the actual existence of peritonitis should be carefully determined before considering operative interference. The degree of general systemic reaction will form a very valuable guide. But here again we must bear in mind that suppurative peritonitis may run a fatal course without the slightest fever.¹⁷ The difficulties in diagnosis are manifestly great, and each case must be carefully studied by itself.

Nothing has been said concerning the therapeutical indications determined by the patient's general condition, because they are not in any way peculiar. The vital forces should be sustained by concentrated nourishment, and, when necessary, by free stimulation. In short, the general management of the case should be dictated by those principles which ordinarily guide us in the asthenic type of diseases to which peritonitis belongs.

In attempting to indicate the limits of unaided medical treatment it is not, of course, supposed that when surgery steps in, medicine, as distinguished from surgery, steps out. It should not be forgotten that medical treatment becomes all the more important, because rendered more effective by its surgical auxiliary.

CLINICAL LECTURE

ON SCIATICA, NEURASTHENIA AND HYSTERIA.

BY PROF. J. M. CHARCOT,

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Translated from La Semaine Médicale for THE JOURNAL, by A. CHURCH, M.D., of Chicago.

The patient I present to you does not bear in his appearance the marks of active intelligence. He is an individual that never learned to read in his youth; he did his military service in a regiment of dragoons, and completed it, but still without learning to read. He drinks, but before analyzing with you this drinking tendency completely I beg you to examine the quite special attitude he presents when undressed.

Permit me in passing to recommend this examination of your patients. I know very often what is called propriety will interfere, especially when you have to do with women in investigations of this sort; but whenever it is permissible do not

neglect it. The physician, much more than the painter or sculptor, should have precise ideas in regard to external conformations and attitudes. A painter that represents a muscular prominence where it does not normally exist certainly commits a fault, but this fault entails no grave consequences, and he may even find admirers of it. The physician that does not perfectly know the anatomy of external forms exposes himself to mistakes otherwise prejudicial, and it may happen, as I have sometimes seen, that he gives his professional attention to anormal prominence, a vertebra apophysis, under the impression that it is a gibbosity.

Now consider attentively the attitude of this patient, an attitude that I noted for the first time two years and a half ago. It is, as you see, well marked, and, moreover, none of the authors mention it. The trunk is inclined to the right; the vertebral column describes a curve with the convexity to the left; the right hand descends much lower than the left; the left lower extremity is semi-flexed; the buttock of this side presents a flattening, the gluteal fold being elevated; finally note that the heel of the left foot does not touch the ground.

This attitude, so characteristic, has never been pointed out, and yet it is a feature of a very frequent disorder, for this patient is suffering with sciatica. This shows you how the most apparent points in clinical medicine may remain for a long time unperceived. We carry with us, indeed, from our medical education a certain number of impressions from which it is extremely difficult to free ourselves. We have the habit of seeking only those things already described and it requires long practice to acquire that independence of thought that enables one to see beyond his preconceived ideas. Often in this manner one finds traits so plain that it is difficult to explain how they have remained so long unrecognized, and usually they are at first received, even by progressive minds, only with scepticism. When I described for the first time the gross articular lesions of ataxics, those arthropathies that nevertheless must have always existed, it was objected, particularly in Germany and England, that they were only to be seen at the Salpêtrière. This scepticism has since disappeared, and to-day no one longer doubts the existence of these joint lesions.

This special, characteristic attitude of a patient suffering with sciatica I have known scarcely two years. You may judge for yourself if there be chance for mistake. It is so pronounced that at first I asked myself if there were not pathological curvature of the vertebral column.

When the patient is seated you observe that the entire body-weight rests upon the right buttock, and that the left does not take part in the body-support. In this position you may also note

¹⁷ Goodhart, London Lancet, February 26, 1887, p. 410.

the atrophy of the left lower extremity, which measures many centimetres less than its fellow. You have concluded that we have to do with a sciatica of long standing. In fact it dates back over five years, and is a sciatic neuritis.

Before explaining to you more fully this sciatic neuritis allow me to recall in a few words the history of the subject. Medically speaking, the history of sciatica goes back to Hippocrates; yet until the year 1764 there were on this subject but very vague notions. It was a Neapolitan, Cotugno, who first distinguished the *ischias nervosa* from *ischias arthritica*. Sciatica for a long time, and justly, bore the name of Cotugno's disease. That physician had the merit of clearly distinguishing sciatica from coxalgia. He well indicated the principal sensitive points encountered in this affection, and recognized that these points bore a relation to the course of the nerve.

A long time subsequently came Valleix with his anatomico-physiological theory. He wished to cast all the neuralgias in the same mould. This was an error. *Tic douloureux*, a neuralgia of the fifth pair, has a history of its own, brachial neuralgia has also its own habits. It is well understood that the course of the nerve and the sensitive points are to be considered, but further than this each neuralgia has its individual history. It is unreasonable in clinical medicine to bring everything into *rapprochement* with physiology. I speak now, note if you please, of the physiology of the present day, which is far from being perfect. Physiology says that when a nerve is affected in any portion of its extent the pain is referred to the periphery of the nerve. Lesagne showed that in certain cases the nerve itself is painful and he came to distinguish two varieties of sciatica; one a sciatica with neuritis, the other, in which no lesion can be determined, is a neuralgia properly so-called. The former variety is an affection of long duration, accompanied often by eruptions, by *zona*, by various trophic troubles, and, as in the present case, by atrophy of an extremity; for we are confronted by a case of sciatic neuritis.

We may also determine the existence in this patient of the classical sensitive points. There exists a sacroiliac point, a gluteal point, an ischiatic or post-trochanteric point, and the last is strongly marked. Below we find many peroneal points, a peroneal point, a patellar point; finally an external malleolar point and a point on the dorsum of the foot. During the access of the disease, from these points radiate pains which communicate with adjacent points and the entire course of the nerve is painful.

Sciatica in the present case is incontestable; the diagnosis is not doubtful. Yet, there being this peculiar attitude I have described, the heel of the foot not touching the ground, you might possibly think that there is a coxalgia behind this sciatica. I wish to point out once more that

the flattening of the buttock and the disappearance of the gluteal fold to which surgeons attribute a great value in making a diagnosis of coxalgia, is no absolute indication. You know that every healthy individual can at will reproduce this same malconformation by taking the predetermined attitude. This demonstration has been made before you here by the models of the Art School whom I had summoned for that purpose.

If you place your patient recumbent, with the lower limbs extended, and then attempt to raise the left foot you provoke intense pain, because by this movement you stretch the sciatic nerve. At the same time you may note that the articulation is mobile and is not the seat of any crepitation—a sign evidently in favor of sciatica and, against coxalgia. If in spite of this you still entertain some doubt, you always, as a last resort, have recourse to anæsthesia; but I repeat, the diagnosis here is not in question.

This man, moreover, found himself in surroundings in which sciatica is most usually developed. He is a terrace builder, he worked in water. Upon leaving the regiment he was employed at plaster-ovens, but lodged in a very damp room. Add to this some alcoholic excess, and you have causes sufficient to explain the development of that affection against which for five years have been tried in vain the various modes of treatment, including vesicatories, the actual cautery, and the spray of chloride of methyl.

It now remains for me to speak of the treatment of this sciatica, but in place of so doing I prefer to go deeper with you in the study of this malady, and to see if behind this sciatica some other much more interesting affection does not lurk.

This man, as I remarked at the beginning of the lecture, has a well-marked air of hebétude. He is gloomy, discouraged, without ambition. His memory is obtuse. He dreams every night, has night-mare, the sensation of a strangling hand, sometimes he thinks he is falling from a precipice, but always with the left side foremost. Upon the dynamometer he registers 18.20.30, when he should indicate 80 and more. Finally, he does not digest his food well.

This lack of ambition, this amnesia, these nightmares and formulated dreams, did not exist six months ago. Previous to that date, in spite of his sciatica, he was able to work. He was not, it is true, particularly vivacious, but he earned his living. At that time, in an accident to a train loaded with ballast, he was wounded in the forehead. The wound suppurated; he had fever, and in eight or ten days this nervous state commenced, and has continued till the present moment.

If you join to the signs I have enumerated a quite peculiar pain in the head, a constrictive pain, which patients voluntarily compare to a

band of lead, which binds the head, you will have a complete picture of neurasthenia. With this man every effort of reflection is distressing; thought is, so to speak, painful. It is a complete neurasthenia of the same type as come upon young men undergoing examination for a higher grade or during preparation for a competitive struggle. Whether it develops in young men as the sequence of excessive intellectual work, or comes upon any one after a violent emotion or a cephalic traumatism, neurasthenia is always identical.

Here is the first point established; our patient is a neurasthenic. Is that all? Is not this man also hysterical? It is a question we will now try to elucidate.

Scarcely six years ago when one spoke of hysteria in the male, he only had in view the young men still in the family who as the result, for example, of opposed love, shut themselves in their rooms, wept, bewailed their lot, made verses and gave themselves up to a thousand eccentricities that were attributed to hysteria, the *petite hysteria*, as it was called. To-day we know that *grande hysteria*, true hysteria, occurs much more frequently in the male than was formerly supposed, possibly as frequently as in the woman, if not more so. We now make the point that every person who has fallen into a nervous state as the result of a traumatism, has the chance of becoming hysterical.

Hysteria is not comprised in the typical attacks, with their three characteristic phases, which are so frequently encountered in women. Beyond this there are slight attacks, and moreover there is a certain number of symptoms, which enable us to delineate this malady, where formerly it was not suspected. In this disease these symptoms have for us the same importance as the crepitan râle and the tubular breathing in thoracic affections.

The visual field of this patient is notably diminished. The contraction of the visual field is nearly an absolute sign of hysteria, outside of which we encounter it in but two conditions in epileptics immediately after an attack, and as the result of certain lesions of the internal capsule, which give rise at the same time to hemianæsthesia. Epileptics that have constant contraction of the visual field—and we have some such at the Salpêtrière, are at the same time hysterics.

If we now pass to the examination of the sensibility we see that there is a hemianalgesia of the entire left side, and, moreover, in the region corresponding to the ovarian region in women we find a fixed painful area, the only fixed pain the patient presents, with the exception of the pain in the head. This painful point in the iliac region, existing in man as in woman, proves clearly that the ovary here is not the cause, and that surgeons who remove the ovaries under the pretext of curing hysteria are at least blamable. As a

general rule the ovary has no part in the production of hysteria. Pressure on this painful point provokes in our patient irradiations to the stomach and neck. It determines a sensation of strangulation, and of throbbing in the head, accompanied by slight syncopal attacks. These sensations may arise spontaneously, and be followed by the same phenomena.

We now have sufficient data to give a diagnosis of hysteria in this case, and the picture I have just outlined you will always find identical with itself. Whether you have to do with traumatic hysteria, as in this patient, with hysteria the result of intense emotion, from loss of fortune or after intoxication or due to lead, mercury or alcohol, you will always find the same symptoms. The distinctions some have wished to establish among these various hysterias have no foundation in fact, and I defy those who pretend to recognize in hysteria symptoms varying according to the producing cause, to distinguish in the midst of a number of hysterics those that have saturnine hysteria from those that have the traumatic form. Hysteria is an entity whatever may be the cause.

I will remark in closing that our patient is predisposed to neuroses. Formerly he committed alcoholic excesses, and in searching his antecedents we find that a brother of his father died insane, that one of his cousins is epileptic, and finally that his own brother died epileptic.

Retain then the point that in clinical medicine it is sometimes necessary to go beyond the limits traced in your classical authors. It will happen to you to find undescribed features and striking ones even in an ordinary disease like sciatica. Moreover, remember that in nervous pathology diseases are often complex. A superficial examination shows you here but a common sciatica, and yet you have seen how we have discovered behind this sciatica both neurasthenia and hysteria.

FETID MENSTRUATION, OR FETEO-MENORRHŒA.

BY WILLIAM B. DEWEES, A.M., M.D.,

SALINA, KANSAS.

The natural odor of the menstrual discharge is peculiar, but not offensive. It is an odor *sui generis*, and has been compared to that of the marigold (*calendula officinalis*), fish brine, etc. It is most pungent in women of darker or lighter complexion, *e. g.*, in negro and in red-haired women it is often very strong. Virchow attributes it to the presence of fatty acids. But it is not the peculiar natural odor pervading menstruants that we wish to bring to the attention of the reader. It is the abnormal odor contracted by the flux at or before its emergence from the uterus. To dif-

ferentiate the two in all cases may become difficult, but the distinction must be borne in mind while endeavoring to make a proper diagnosis.

Every physician of experience no doubt has had—like myself—a number of cases of fetid menstruation—*Fluxus Menstrualis Fœtidus*—for which I would propose, in accordance with scientific nomenclature or nosology, the name of fœteo-menorrhœa (*Fœtes*)—and found them to arise from very different causes.

The disordered conditions with which the *dysodia* is most frequently found, are divisible into two classes—those of *general* and those of *local* origin. Not infrequently both are combined. To the class of general origin belong all impaired blood conditions—chlorosis, syphilis, etc. To the class of local origin belong, (1) prolonged retention and decomposition of the menses, (2) the discharges in certain morbid conditions and growths within the body of the uterus.

In chlorosis the catamenia is of a feeble type, and scanty, even if regular, the discharge is very pale, and in a large percentage of the cases it is greenish in color. It is in those cases presenting this greenish discharge that fetidity is apt to occur. In these cases the offensiveness is evidently due to the degraded blood-condition, for when this is corrected it subsides. The same principle holds good in cases due to simple anæmia, syphilis, etc.

Prolonged retention and decomposition of the catamenia may be produced by either mechanical obstruction, principally stenosis or flexion, or to deficient expulsive power of the uterus, both of which are often accompanied by a scanty flow. Many of the most severe and obstinate cases of fœteo-menorrhœa are due to diseases of the endometrium—in subinvolution, particularly of the placental site—after abortions and confinements; polipi, fibroids, epitheliomata, sarcomata, papillomata, etc. Occasionally cases present themselves evidently due to the gonorrhœal poison.

It is worthy of mention, that four very obstinate cases of this kind have been treated by the writer during the past year. The catamenia in these four wives were not only very fetid, but equally acrid, which seemed to excite a villous proliferation of the endometrium with a virulent discharge in the interim of the epochs, being most obstinate and persistent, as well as difficult of cure—producing excoriation of vagina, vulva, and parts with which the discharge came in contact of each of these four women, while in each of the four husbands they brought on perpetual attacks of urethritis. The cases were cured eventually by radical erosion and cauterization of the endometrium in each uterus, and by appropriate treatment of the husbands, together with enforced abstinence from intercourse for a definite time. Each and every one of these four men had primarily contracted clap and conveyed the same to their wives, followed by the results above delineated,

the wives being free from fœteo-menorrhœa prior to and since said infections.

As regards local measures other than operative procedures (such as erosion, removal of morbid growths and dilatations), injections and irrigations with deodorizing materials are very useful. Solutions of boracic acid, corrosive sublimate (1:2000), carbolic acid, iodine (1 to 40), and what I prefer to all of them, boro-glyceride and Listerine, in from 25 to 50 per cent. solutions. The general treatment in chlorosis, anæmia and other impaired blood conditions is chiefly to be overcome by the judicious use of arsenic, iron and quinine, while in syphilis iodide of potassium must remain our chief reliance.

Last, but not least, healthful, nutritious diet, open air exercise, proper and free use of water as drink and bath, sunlight freely welcomed, pleasant surroundings, cheerful society, etc., must always receive due recognition.

SIMPLE SUPPORTS FOR USE IN ALL OPERATIONS ABOUT, ON, OR NEAR THE PERINEUM.

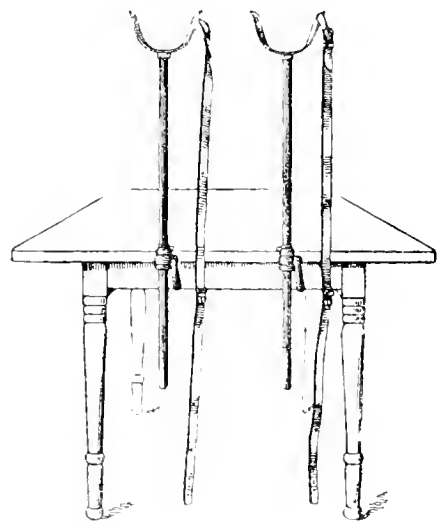
Read before the Section on Gynecology, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

BY WM. C. WILE, A.M., M.D.,

DANBURY, CONN.

EX-VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION;
MEMBER OF THE BRITISH MEDICAL ASSOCIATION; EDITOR
OF THE NEW ENGLAND MEDICAL MONTHLY, ETC.

In all operations on the perineum, such as cutting for stone, plastic operations upon the vagina or uterus, the removal of piles, and every operative procedure around the genitalia and buttocks, when the position of the patient is in the dorsal



decubitus, it is necessary for the surgeon to have two assistants to hold the limbs in proper position,

namely: the legs flexed upon the thighs, and oftentimes the thighs upon the abdomen. Besides being tiresome for the assistants, their hands and arms, and even the feet and legs of the patient, are nearly always in the way, and while the will is strong the flesh is often weak, and the grasp on the limb becomes more and more loosened as the moments roll into the hours of the operation.

Many devices have been presented to the profession in order to obviate this difficulty, but they have all been unpractical, cumbersome, or too expensive. The want of assistants just when most needed for this class of operations has driven me to devise the support which you see before you. In my hands it meets every requirement. The idea in a general way was derived from a pair somewhat similar in design, but not near so perfect in mechanical construction, in the office of Dr. Bernays, of St. Louis. The most desirable one must be one which will not impede the circulation of the blood of the limbs, or in any event do this as little as possible.

This instrument, as you will see, is placed in position only after the patient is put under the influence of the anæsthetic, and on the top concave bar rests the belly of the gastrocnemius muscle, while in slots on each side of this is inserted a strap which passes around the sole of the foot, keeping the leg from slipping down, which would cause undue pressure on the popliteal artery under the knee-joint.

Another excellent point about this instrument is, that the clamp holding the upright rod is so constructed that it is impossible under any strain which may be put upon it for it to slip, the clamp grasping every portion of its periphery. It was made for me by Read & Co., of Danbury, Conn.

CEREBRAL ABSCESS FOLLOWING INJURY OF THE SKULL.

BY THOS. W. KAY, M.D.,

OF BALTIMORE, MD.

FORMERLY SURGEON TO THE JOHONNITER HOSPITAL,
AT BEYROUT, SYRIA

Murscha, æt. 28, black male, presented himself at the Johonniter Hospital on the 14th of May, 1888, with the following history:

Two years previous, while engaged in a quarrel near Jaffa he was struck on the head with a heavy staff and left for dead. He regained consciousness after several hours and from that time to the present has had no sickness of any kind, nor has he had paralysis or pain in the head.

He was in excellent health when he presented himself, being in full possession of all his mental faculties, and complained only of an offensive discharge from the head, which had been of six months' duration.

Examination revealed three sinuses over the right parietal eminence, and necrosed bone was found at the bottom of all of these; so I connected two of them by incision and removed, by sequester forceps, a piece of bone $2\frac{1}{4}$ inches long by $1\frac{1}{4}$ inches broad, consisting of both tables of the parietal bone. As soon as this was done between $1\frac{1}{2}$ and 2 ounces of very offensive brain substance, which had not entirely changed into pus, escaped. After carefully washing out the cavity it was dressed antiseptically, and this was renewed every day.

Two days later several smaller pieces of the internal table were removed, and the cavity left, after the escape of the diseased brain substance had been carefully measured. It was found to be elliptical in shape, being $2\frac{1}{2}$ inches long by $1\frac{3}{4}$ inches broad, and 1 inch in depth. The direction of its long axis was represented by a line drawn from the post. inf. angle of the right parietal bone to the middle of its superior border, and its deepest point was just below the parietal eminence.

In a few days healthy granulations had sprung up, and by June 7 the cavity was so nearly filled that the man was allowed to leave the hospital.

It is interesting to note the length of time that elapsed between the receipt of the injury and the appearance of the discharge; and also the entire absence of any paralytic or cerebral symptoms after such a large loss of brain substance.

MEDICAL PROGRESS.

TREATMENT OF SYCOSIS. — DR. GEORGE THOMAS JACKSON, in summarizing the results of treatment in 22 cases, says:

The first thing to be done is to open up the pustules and get rid of their contents. Epilation, soap frictions, and the use of the dermal curette all do this, and all proved beneficial—12 cases out of 14. After epilation or curetting, the chosen application should be made, whether as an ointment or oil.

In acute cases where there is much pustulation, epilate or curette, and apply boric-acid ointment, or Lassar's paste with salicylic acid. Give one-tenth of a grain of calcium sulphide in fresh tablet triturates every one or two hours. If an acute outbreak of pustules occurs under it, stop it until a subsidence of the eruption takes place, and then begin again.

In subacute cases where there is not so much pustulation, but more redness and the disease is more patchy, epilate or curette and use Bronson's ointment, or one of sulphur or tar or other mild stimulant. Or use soap frictions, followed by protective ointments.

In chronic cases epilate or curette, or apply a

solution of caustic potash carefully to diseased parts. Locally, employ strong ointments or solutions of tar, provided caustic potash has not been used. If caustic potash has been used, then apply a simple soothing dressing. The use of tar in alcohol, as proposed by Pick, of Prague, has of late given brilliant results in my hands in some cases of chronic eczema, and in the last few days has greatly benefited one of the cases here reported, one which had shown itself to be very obstinate. Soap frictions are also valuable at this time. As chronic and subacute cases may take on acute forms under stimulating treatment, we must be prepared at any moment to apply more soothing methods of cure according to indication. For the best effect from our local treatment we must insist upon our remedies being kept constantly applied during day and night. To the same end the patient is to be advised to shave himself about twice a week. This is not absolutely necessary, but facilitates the action of our applications upon the diseased skin. If a rhinitis be present, appropriate remedies must be used for that. While treating the skin affection we must not forget the man whom the skin clothes. We must address ourselves to the task of regulating the diet and general hygiene of the patient, and give medicine, if needs must, upon the same principles as we would if the patient came to us not for his sycosis, but on account of his poor general condition.—*Journal of Cutaneous and Gen.-Urinary Diseases*, January, 1889.

INTERNAL TREATMENT OF ELEPHANTIASIS.—THOMASZ, of Ceylon, says that in looking over the literature of the subject he has been "struck with the paucity of drugs, and even of other methods of treatment, either curative or palliative, for this chronic disease (elephantiasis), which is both an encumbrance to the individual affected and a loathsome sight to the onlooker."

As regards internal treatment, I am inclined to agree with Thomasz, and even with external remedies we are none too well provided. In spite of Hans Hebra's remark about the "*reichen Literatur der Therapie der Elephantiasis*" this author, in his monograph on this subject, only alludes to elevation and suspension of the diseased parts, graduated compression by means of flannel or rubber bandages, massage, galvanism, compression or ligation of afferent arteries, and section of nerves. Of course, inflammation, or eczema, is to be treated if present, but the list of applications, it must be confessed, is brief, and their effect not very great in checking the progress of the disease, if we except ligation of the artery—a really dangerous procedure.

Massage alone is the treatment (of course, we exclude amputation) for all forms of elephantiasis except that of the limbs. No internal treatment has so far as I am aware, been even proposed

with any reasonable hope of success, though I doubt not arsenic is daily employed by the votaries of that drug, and not unlikely mercury and iodide of potassium "on general principles."

Now that the *filiaria sanguinis hominis*, that curious parasite, with its intermediate host, the mosquito, has been shown to be the exciting cause of many cases of elephantiasis, of the scrotum at least, it would seem as if it might be possible to find some parasiticide which would nip the exciting cause of elephantiasis in the bud.

This, Dr. Thomasz believes himself to have discovered in the form of sulphide of calcium. He prescribes for an adult a 1-grain pill of the drug morning and evening, after meals, continued for a month, and then increased to 1½ grains, and, when tolerance is established, to 2 grains, twice daily, until a cure is effected. No unusual symptoms have followed the administration of these large doses of the drug. Inunctions and bandaging, in cases where this is practicable, are also practiced.

Thomasz has treated seventeen in this way. Seven, under six months' standing, were completely cured in one and a half to two months. Cases of longer standing were improved, but that is all that could be expected. These seventeen cases were seen in public practice. Twelve more cases seen in private practice from the day of the initial fever all recovered. In one or two cases relapses took place, which were promptly quelled by a brief course of the sulphide of calcium.

I am inclined to think well of this form of treatment in the early stages of elephantiasis due to filaria, and I even think it worth a trial in cases occurring in our own climate. It seems based upon reason, and should certainly have a fair trial. Of course, it has its limitations. Sulphide of calcium is not a discutient; at least, it cannot be expected to disperse connective-tissue hypertrophy.—*Ceylon Medical Jour.*, Aug., 1888.

HÆMORRHAGE IN SALICYLISM.—DR. LAURISTON E. SHAW reports two cases of hæmorrhage in salicylism, and says: The treatment of acute rheumatism by salicine and its derivatives is so widely popular that it is of great importance to consider carefully any drawbacks there may be in its adoption, especially if by so doing we may remove them. It might, perhaps, be urged that the hæmorrhage in the two cases related above was not the result of the drug administered, but was either a purely accidental occurrence, or was a manifestation of the purpuric tendency in rheumatic patients. Against such a suggestion I would point out that in these particular cases the symptom did not occur at the height of the fever, but at a time when its severity was already subdued by treatment, and the patient was suffering from one or more of the well-known toxic effects of the remedy. Moreover, the recurrence of the

bleeding when the drug was re-ordered or its dose increased in frequency seems to make the causal relation between the treatment and the symptom as clear as such relations ever are in medicine. It appears also to be reasonable to expect that, if patients bleed at all as a result of salicylism, they should do so from their gums, which are so liable to bleed in all hæmorrhagic states. That they do suffer from epistaxis is established beyond all doubt; the occurrence is mentioned by nearly all writers on this subject, and the fact was freely accepted by the physicians who took part in the discussion at the Clinical Society in 1881. Of 174 patients treated at Guy's Hospital by these drugs, I found that 6 per cent. were recorded to have had this symptom. Thus the difficulty is not to establish the existence of the hæmorrhage, but to satisfactorily explain how it is produced. In the first cases which I observed, I was struck by the bounding pulse which preceded the bleeding, and thought that some increase of arterial tension might be an important agent, but a more careful investigation showed that, although the pulse was large and forcible, it was of decidedly low tension, a fact which was confirmed by sphygmograms taken before, during, and after the period when the patient was thoroughly under the influence of the drug. It seems, therefore, that we must fall back upon some chemical or physical change in the blood which makes it more readily transude through the capillaries, or else upon some secondary change in the walls of the vessels themselves. The point of practical importance to which I would call attention is this. Although I have carefully watched these cases for some years, I have never observed epistaxis or any other hæmorrhage occur until several hours, and generally not until some days, after the more common symptoms produced by too large a dose have been well marked. These symptoms are deafness, headache, vomiting, *timitus aurium*, and an irregular and slow pulse, this being the order of frequency, with which they occurred in the series of 174 cases before referred to. It would, therefore, seem that if due regard were paid to these indications that the drug is beginning to produce its physiological effects, and an appropriate alteration made in the dose, the occurrence of loss of blood, which the patient can so ill afford, might be prevented. Patients differ very much in their susceptibility to these remedies, and the amount by which the dose must be reduced varies directly as the rapidity with which symptoms of poisoning are developed. A point requiring further investigation is whether the rather common practice of substituting salicine for salicylate of soda in identical doses, in cases in which the patient seems intolerant of the latter drug, is a thoroughly reliable proceeding. There is a general impression that salicine is less liable to produce ill effects than other preparations, but re-

corded cases do not fully bear this out. The chemists tell us that salicine is converted into salicylate of soda in the blood, and that, roughly, twenty grains of the original drug produce fifteen grains of the soda salt, and it is possible that any good effects which follow the substitution of one for the other might equally follow a corresponding diminution in the dose. In reference to this point, it is worth noting that in one of these cases, as well as in one of the fatal cases previously reported, salicine had been substituted for salicylate of soda two or more days before the hæmorrhage occurred.—*Lancet*, Jan. 19, 1889.

THE DISINFECTION AND TEMPERING OF RUBBER DRAINS.—The proper disinfection of rubber drain-tubes is of great importance; the more so, as its accomplishment is attended with considerable difficulty. JAVARO shows that tubes are usually so affected by the usual processes of preparation as to be very much injured, and then fail to realize their intended purpose. To avoid softening (more especially of the red varieties), he advises that for five minutes they be immersed in concentrated sulphurous acid. He urges that the red variety should always be used in preference to the white kinds, as being more suited to withstand injury during his process. In the acid, the tubes assume a dark-chestnut color, and become hardened. Then they are to be washed in alcohol, 75 per cent., and finally to be laid away in antiseptic preserving fluid—either 5 per cent. carbolic acid solution or 1-200 bichloride solution. Tubes so prepared will not collapse under even very considerable pressure. If they have become too hard, by working them between the fingers they can be much softened. After being treated in the acid, they are unaltered in any way further by preservation in antiseptic fluids. These tubes have now for a long time in his hands entirely replaced all other kinds, and he utilizes them for every possible purpose. They maintain their lumen even when placed between the ribs, and will not readily kink or become obstructed, yet are not so resistant as to exert dangerous pressure.—*Centralblatt für Chir.*, Aug. 18, 1888.

CARDIAC TONICS.—*Digitalis* still holds its place as the most powerful heart- tonic we as yet possess, and the most permanent in its effects. *Strophanthus* has been on trial for over two years, and it is difficult to decide in exactly what cases of cardiac disease it is preferable to *digitalis*. Nearly all observers confirm Fraser's original statements without adding any important new facts. However, GUTTMANN maintains that it cannot compare, either as a heart drug or as a diuretic, with *digitalis*. On the other hand, it was used in Bamberger's clinic with success.—*Dublin Journal of Medical Science*, December, 1888.

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SATURDAY, FEBRUARY 16, 1889.

THE EDITORIAL MANAGEMENT OF
THE JOURNAL.

The readers of THE JOURNAL have already noticed in the number for the 9th inst., the unexpected resignation of the editorship by DR. JOHN B. HAMILTON, and his reasons therefor. The Board of Trustees in accepting the same, promptly effected such arrangements for editorial management as will permit of no interruption or lack of efficiency in the work of that department of THE JOURNAL.

EYE SYMPTOMS AND CEREBRAL LOCALIZATION.

MR. HENRY R. SWANZY'S Bowman Lecture on "The Value of Eye Symptoms in the Localization of Cerebral Disease," delivered on November 9, 1888, is an important contribution to cerebral surgery. The recent advances in this field have brought increased responsibilities and increased anxiety for the surgeon called upon to treat focal cerebral disease; and the responsibility and anxiety are perhaps greatest at the outset, when the regional diagnosis has to be made. It is therefore of the utmost importance that the symptoms of each case of focal cerebral disease should be carefully noted, and that each autopsy should be made with the greatest precision; furthermore, such autopsies should be conducted by skillful pathologists and microscopists.

Mr. Swanzy is inclined to believe that eye-symptoms are too often not looked for at first,

but are utilized rather as a *dernier ressort*. This is certainly a serious error; for not only are many of these symptoms of the greatest localizing value, but their very nature may render their discovery at a late stage of the disease impossible. In cerebral regional diagnosis the process of exclusion plays a very important rôle; a very large extent of the brain is in relation with the eyes, and it must be admitted that when a search for eye-symptoms in a case of focal brain disease gives but a negative result, this is so significant for diagnosis that it is almost as important as a positive result.

Mr. Swanzy dwelt in his lecture rather on the facts provided by clinical pathology than on those of experimental comparative physiology. He calls attention to the difficulty of distinguishing between direct symptoms and so-called indirect symptoms in focal disease. The former are those dependent upon the loss of function of the part in which the lesion is situated, and are the symptoms it is desirable to point out. The indirect symptoms are not the result of the local disorganization caused by the lesion, but of its pressure, of disturbances of circulation to which it gives rise, and probably also of inhibition effects, all of which are likely to interfere with the function of parts of the brain more or less remote from the lesion. The term "indirect" should be replaced by "distant," which is more suitable, and implies simply the one fact of which we are certain, and no more. But there is nothing in the manner in which focal eye-symptoms are presented that will enable us to distinguish between the direct and distant symptoms.

Clinically, focal eye-symptoms may be divided into those that depend on disturbances in the motor apparatus of the eyeball, including the intra-ocular muscles, and those that depend on disturbances in the special visual apparatus. In addition, we must consider symptoms due to lesion of the nerve of ordinary sensation of the surface of the eyeball. It is quite impossible to give an exhaustive analysis of the lecture in the space at our command; at most we can give but a summary of some of the more important points brought out by the lecturer. In regard to conjugate lateral deviation of the eyes, it may assist us in diagnosing a cortical or capsular lesion from one in the pons. It may aid us in deciding on which side of the brain a lesion is situated

when other symptoms are not readily observed, as in coma. The varieties of the symptom, when it is due to disease in the pons, may be of value in forming a refined diagnosis as to the precise seat of the lesion there. Gowers and Hennoch have observed loss of motion of the eyes upwards in lesion of the corpora quadrigemina. Paralysis of the upward and downward motions of both eyeballs, sometimes while ptosis, with the lateral motions are unimpaired, may be the result of a focal lesion involving the third nerve nuclei in the floor of the Sylvian aqueduct; and if attended by hemiplegia the lesion involves the pyramidal tracts, probably at the level of the anterior corpora quadrigemina, the posterior commissure, and the neighboring part of the optic thalamus. A symptom of lesion of the posterior quadrigeminal bodies is loss of the power of convergence, sometimes accompanied by paralysis of accommodation; though this may be regarded probably as a distant symptom in some cases. A remarkable, and as yet inexplicable symptom is a deviation of one eye downwards and outwards, while its fellow is turned upwards and inwards. It has been seen with lesion of the middle cerebral peduncle, and the lesion may involve the adjacent cerebellar substance.

While ptosis has no value as indicating the locality of a cortical lesion, according to Nothnagel it may serve in distinguishing a cortical lesion from one situated elsewhere in the brain, since monolateral ptosis, as the only focal symptom, occurs with cortical lesions only. Ptosis, as the result of a cortical lesion, is probably often a distant symptom. Double ptosis has been noted as the only focal symptom in a case of tubercular degeneration of the corpora quadrigemina. In this case the motions of the eyeballs were not impeded, and there was no defect of vision. Lesions causing bilateral paralysis of branches of the third nerve that are wont to be innervated together—loss of motion of the eye downwards or upwards, and double ptosis—are to be sought in the quadrigeminal bodies, since basal lesions do not give rise to similar paralysis. Ptosis on the side of the lesion is sometimes a symptom in disease of the pons, without paralysis of the other branches of the third nerve, except in so far as conjugate deviation is concerned, and without the third nerve being involved. Ptosis may also serve to localize a lesion in the crus cerebri, by

forming a factor of a crossed paralysis. When the third nerve is paralyzed by a lesion in the crus cerebri it is usually paralyzed as a whole; but paralysis of only some of the third nerve branches may be caused by a lesion of the cerebral peduncle, the branch to the levator palpebræ seeming to be the one most frequently involved alone. Nothnagel has described a rare form of ptosis, as a focal symptom, not dependent on a lesion of the third nerve. It may be called sympathetic or pseudo-ptosis, and is accompanied by other eye symptoms as well as by symptoms of vasomotor paralysis of one side of the body, such as elevation of temperature, and redness and œdema of the skin. In these cases, says Nothnagel, there are: 1. Apparent ptosis on the paralyzed side, owing to contraction of the palpebral aperture, but the lids can be raised. 2. Contraction of the pupil on the same side. 3. A shrinking back of the eyeball into the orbit, so that it seems to have become smaller. 4. An abnormal secretion of thin mucus from the corresponding nostril, of tears from the affected eye, and of saliva from the corresponding side of the mouth. This train of symptoms has been found in lesions of the corpus striatum.

Crossed hemiplegia is a common sign of lesions of the crus cerebri. A frequent form of it is paralysis of the third nerve on the side of the lesion, with hemiplegia, hemianæsthesia, often facial, and sometimes hypoglossal paralysis of the opposite side of the body. This lesion may implicate all or only some of the branches of the third nerve. The localizing value of crossed hemiplegia depends chiefly on the hemiplegia and paralysis of the cranial nerve coming on simultaneously. When the paralyses do not occur at the same time, the presumption is in favor of two separate lesions, neither of which may be in the pons. Complete paralysis of the whole of the third nerve is almost certain evidence of a basal lesion, as is isolated paralysis of the fourth or sixth nerves. Paralysis of the sixth due to disease of the pons is accompanied by hemiplegia of the opposite side of the body; but paralysis of the sixth on the same side as the hemiplegia points to a cortical lesion, and is probably a distant symptom. Nystagmus is of no localizing value. Lagophthalmos—the eye-symptom to which paralysis of the facial nerve gives rise—is useful for localization, inasmuch as it helps differentiate a lesion in

the internal capsule, or in the facial motor centre of the cortex, from one implicating the portio dura in the pons; it is absent or very slight in the former cases, and often very marked in the latter.

It is rarely that the condition of the pupils is of much value in regional diagnosis. Their condition may assist in the differential diagnosis of the various states of coma, but it is not very reliable for localization. Persistent dilatation of one pupil would indicate third-nerve paralysis.

In regard to the symptoms derivable from the visual apparatus, hemianopsia is one of the most frequent and one of the most valuable symptoms. Complete and absolute lateral homonymous hemianopsia is valuable as showing that there is a lesion in the cerebral cortex, or in the course of the fibres between the cerebral cortex and the optic chiasma.

We regret that limitations of space do not permit a more extended consideration of this very interesting subject. Mr. Swanzy's presentation of the subject will repay careful study. The Bowman Lecture is published in the *British Medical Journal*, of November 17.

THE FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

A recent letter from the Chairman of the Committee of Arrangements, Dr. H. R. Storer, informs us that the local arrangements for the fortieth anniversary meeting of the Association in Newport, R. I., are progressing very satisfactorily. Accommodations for all the Sections are to be furnished in one building, and in close proximity to the large hall for the general meetings. It should be remembered that the next meeting does not commence until June 25, when the hotels will all be open and accommodations abundant, and the early warm days of summer will make the sea air invigorating and pleasant.

We have also learned that the officers of several of the Sections are at work and making good progress in securing the promise of good papers and in arranging their programmes in such manner as to include both the reading of papers and the discussion of important questions. We trust the officers of all the Sections are equally active in the discharge of their duties. The experience of the last two or three years has shown that an early announcement of work for each Section in

THE JOURNAL, as fast as it is accepted by the officers, greatly encourages others to proffer their contributions. We will gladly commence the publication of all items furnished us under the proper headings.

A SUPREME COURT DECISION ON MEDICAL PRACTICE ACTS.

Some time ago an irregular practitioner named Dent was prosecuted in West Virginia for practicing medicine contrary to the provisions of the Medical Practice Act of the State, which requires every practitioner of medicine in the State to obtain a certificate from the State Board of Health that he is a graduate of a reputable medical college in the school of medicine to which he belongs; or that he has practiced medicine in the State continuously for the period of ten years prior to March 8, 1881; or that upon examination by the Board he has been found to be qualified to practice medicine in all its departments. The case was decided in the Supreme Court of West Virginia, and thence appealed to the Supreme Court of the United States, which gave the following decision in regard to the validity of the West Virginia Act:

"The power of the State to provide for the general welfare of its people authorizes it to prescribe all such regulations as may be necessary to secure the people against the consequences of ignorance and incapacity as well as deception and fraud. One means to secure this end is the method adopted by the State of West Virginia. If the means adopted are appropriate to the calling or profession, and obtainable by reasonable study and application, no objection to their validity can be raised."

It is to be hoped that this decision will set at rest a good deal of the discussion by some newspapers and irregular practitioners as to the constitutionality of medical practice acts.

EDITORIAL NOTES.

PROFESSOR JOHANN WAGNER, for nearly forty years Professor of Medicine in the University of Budapest, died on January 2. He was born at Komorn in 1811, and was graduated from the University of Vienna in 1835. His reputation as a physician dates from 1846, when he introduced the use of cold water in the treatment of typhus fever.

THE LADY DUFFERIN FUND for supplying medical aid to the women of India has now an annual income of 30,000 rupees (about \$15,000) apart from the large capital expenditure on hospitals and medical schools.

SMALL-POX AMONG THE INDIANS at Fort Buford, Dakota, has assumed alarming proportions. There have been six deaths in a little more than a week.

SCARLET FEVER prevails to an alarming extent at Bloomington, Ill., and Lima, Ohio, a number of deaths having occurred. In this connection it may be well to mention that a Bloomington paper wishes to have the Illinois State Board of Health done away with.

A DISLOCATION OF THE NECK occurred in a very peculiar manner at Sidney, N. Y., a few days ago, according to a press dispatch. A young lady attempted to raise a window sash, which was caught fast by ice that had gathered at the sill. The obstruction suddenly gave way, permitting her head to fly back with a violent jerk that dislocated the vertebræ of the neck. Her head, no longer sustained by the neck, dropped down on the right shoulder. The surgeon who was called to attend her succeeded in reducing the dislocation, and then adjusted around the neck a stout paste-board collar as an artificial support for the head in its natural position. It is believed that in the course of time she will entirely recover, without any deformity of the neck remaining. So far she has suffered no great pain.

DR. A. BIRNBACHER has been appointed Extraordinary Professor of Diseases of the Eye at Gratz.

THE *Internationales Centralblatt für die Physiologie und Pathologie des Urogenitalsystems* appeared on January 1. Among the editors are Professors Preyer and Zülzer, of Berlin. The journal is published by Leopold Voss, of Hamburg.

DR. A. SIBLEY CAMPBELL, eldest son of the late Dr. Robert Campbell, and nephew of Dr. Henry Fraser Campbell, died at his residence in Augusta, Ga., on December 15, 1888, æt. 39 years.

DEATH DUE TO AN ILLEGIBLE PRESCRIPTION. — A. M. Jaubert has recently fallen a victim to a hastily and badly written prescription. His brother, a physician, wrote hurriedly, in pencil, for a

dose of antipyrin. The druggist was absent from his store, and his sister read the prescription as an order for atropine. Knowing that atropine was a poison, she at first refused to fill the prescription, but finally yielded to the importunities of the messenger. The dose was administered, and the patient soon died. The case shows the importance of writing legibly, of leaving a drug-store in charge of a competent person only, and of keeping poisons under lock and key.

THE KING OF GREECE has conferred on M. Pasteur the Grand Cross of the Saviour, the highest Greek Order, and has made Drs. Grancher, Roux, and J. Guyon Commanders of the same Order.

MR. EDWIN CHADWICK, C. B., President of the Association of Public Sanitary Inspectors of England, will be presented by the Association with a congratulatory address on March 2, on his having attained his 90th birthday.

THE PLACE OF SACCHARIN IN PHARMACY is the subject of a pamphlet issued by PROFESSOR ATFIELD. This substance will be of good service in pharmacy in four ways. *First*, it will enable patients to take certain medicines in comparatively small bulk; thus, compound licorice powder or confection of senna may be reduced to one-half their bulk. *Secondly*, the intense sweetness of saccharin will mask the nauseous taste of certain medicines — cod-liver oil for example. *Thirdly*, patients obliged to avoid sugar need not be deprived of a sweet, for besides coffee, tea, cocoa, etc., many medicines can be made sweet by saccharin. *Fourthly*, saccharin, unlike sugar, being not liable to ferment, it may be used for permanent preparations that would spoil if made with white sugar. Saccharin is a tolerably indifferent substance as regards incompatibility. Prolonged contact with strong alkalies is undesirable, and acids precipitate saccharin from a strong, but not from a weak, solution of a soluble saccharinate. In prescriptions for fluids, when a given quantity of syrup is ordered, an equal quantity of simple solution of saccharin may be dispensed. For a powder or confection, saccharin itself may be used. A large number of preparations commonly used and now made with sugar may be prepared with saccharin, and called by distinctive names, such as mist. cretæ sacc., pulv. glyc. co. sacc. concent., confec. sennæ sacc. concent.

THE VALUE OF "FIRST AID" INSTRUCTION was recently shown in Sheffield, England. A father discovered early one morning that three of his children, sleeping in the same room, were unconscious from inhaling gas. Hastening away for a physician he met two policemen, told them what had occurred, and continued on his way. The policemen entered the house, carried the children to the street, laid them on their capes, and began artificial respiration. It seemed at first that their efforts would be in vain, but they continued at work, and when the physician arrived the children were pronounced out of danger.

DR. W. THORNTON PARKER, Recorder of Association of Acting Assistant Surgeons U. S. Army, has removed from Newport, to 322 Benefit Street, Providence, R. I. He has also resigned his position of Local Secretary of the American Medical Association.

NORTH AMERICAN PRACTITIONER. — (The Journal of the Post Graduate Medical School of Chicago.) The first number of this new monthly medical journal has just made its appearance. It contains 48 pages, is published in good style, edited by Drs. Bayard Holmes and Junius C. Hoag, both talented young men, and published by Charles Truax & Company.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, November 14, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR JOSEPH M. PRICE read a paper on

A CONSIDERATION OF SOME OF THE RECENT WORK IN ABDOMINAL SURGERY.

The operations of the various pathological conditions of the uterine appendages form, by all odds, the greater portion of abdominal surgery. The variety of conditions met here are almost past enumeration, each case varying in a manner peculiarly its own, both as to its exact causation, and in its relation to other abdominal viscera. Pus tubes may be one-sided or bilateral, and the same is true of ovarian cysts. These may be suppurating or simple, or gangrenous, by reason of a twisted

pedicle. Their adhesions may be nothing, varying from this to universal. As to the treatment of pus-tubes, now that their existence is acknowledged by all save a doubting few who, unable to recognize them, therefore discredit their existence — this is established past question in the minds of a majority of operators — removal at once on discovery is the fast and firm principle. The same may be said of ovarian tumors. Cysts of the broad ligament are also complicated or simple. Tubal disease may be found present with both ovarian and ligamental tumors. Hydrosalpinx and hæmatosalpinx, while we are often not able to differentiate before operation, may also complicate ovarian disease. Dermoid cysts also afford similar complications to those of other cysts and are quite as prone to suppuration. Tubal pregnancy is of late occupying a prominent place in operative procedures, as affording the greatest scope for surgical ingenuity, while it, at the same time, is not encouraging unless taken early and treated promptly.

Its diagnosis, so much discussed, is now, by common consent, regarded as doubtful before rupture, and if made as accidental, a happy-go-lucky guess, which is harmless, and satisfactory to the operator. Mr. Tait's remarkable experience in these cases is worth that of all other operators combined, and his opinion, to my mind, is of like value, worthy of the greatest respect. An expression of his opinion in regard to the diagnosis of these cases may not be without interest. He says: "The strangest thing of all to me is, that in the enormous experience I have now had of tubal pregnancy, I have never but once been called upon even to make an examination until the rupture had occurred, and in that case there was neither history nor symptoms which enabled me to do more than determine there was tubal occlusion.

"Not, indeed, until the rupture occurred and the abdomen was opened was a diagnosis possible. Under these circumstances, I think I may be excused for maintaining a somewhat skeptical attitude concerning the correctness of the diagnosis of those gentlemen who speak so confidently of making certain diagnoses of tubal pregnancy before the period of rupture, and who speak with equal confidence of curing the cases by puncture, either simple, medicated or electrolytic. I wish to say, that, after the period of rupture, a diagnosis can and has been made, in my own experience, in a majority of these cases. The great bulk of these utterances may stand very well in society discussions or in library papers, but they will not stand the test of bedside experience."

Operations for the removal of gall-stones offer great inducement for successful treatment. Treatment of the ileo-cæcal abscess of appendicitis by the abdominal section offers a direct method of dealing with this hitherto usually fatal or chronic affection. When the lesions are clear, the lat-

eral incision is the choice. The median section is, for many reasons, often advisable, and when there is any doubt as to the exact condition of the case is, perhaps, the best. The closure of the incision should be insisted upon, and drainage carefully established. To insist on strict antiseptis in an operation, and then to leave the abdomen open, appears to be a contradiction in terms, and is illogical.

A method of treatment of pelvic abscess, not in accord with the generally received methods, is that reported by Professor Martin, in the May number of the *American Journal of Obstetrics*. It is to treat the abscess by puncture through the vagina, and where there is difficulty or uncertainty in fixing and locating the tumor, to open the abdomen, disengage the mass from its adhesions, bring it down within reach of the trocar and, finally, puncture and introduce a drainage tube. The professor reports the three cases so operated upon, and says: "The wound is not washed out, and the tube remains for months after the patient has gotten out of bed." A brief discussion of this method seems not out of place. Any operator who, fearing to open the peritoneum, would prefer to puncture through the vagina, would have some measure of reason on his side. But to open the abdomen to free a mass from its adhesions, in order to bring it within reach of a trocar through the vagina, seems too fantastic in its conception to be entertained for a moment. As to Professor Martin's method of locating and fixing the tumor by abdominal section, making vaginal drainage, and closing the abdomen without attempt at removal of the tumor, I cannot but disapprove of it. In this case, only the operator's name makes it possible for such a suggestion to receive a following. When a man of Professor Martin's acknowledged ability, operative dexterity and skill, makes a suggestion, and gives it his sanction, it is taken as the gold of his experience, with the stamp of his approval. Ordinarily, this is worth much. But even genius is liable to err; and I believe that before long Professor Martin himself will relegate this procedure to oblivion, along with the other abandoned operations of our profession, and, if suggesting nothing new to replace it, go back to the older and, I am convinced, better plan of removal and drainage through the original abdominal incision.

If I open an abscess through any wall, why not drain it through the original incision? To open the abdomen simply to bring a mass within reach of a trocar after it has been freed from its adhesions, is on a par with making an incision over a diseased bone; carefully freeing the sequestrum, taking care also not to remove it; diligently suturing the incision, making a second incision, by whatever means fancy may dictate; introducing a drainage tube, and allowing the dead and stinking mass slowly to come away. I am sure one

method is just as logical as the other. The idea, too, of allowing a woman to carry a drainage tube for months, when a section, with the removal of the mass, will allow her, in the majority of instances, to go about well, free from such annoyance and discomfort, in three weeks, is preposterous. We are too far from Egypt and the pyramids to plow our ground with sharpened sticks. Whatever improvement is to be added to the technique of any operation, should be in the line of progress, and nothing should be proposed for the sake of novelty and innovation. Originators are few, imitators are many, and the harm done to suffering humanity by those who follow without thinking and without special training, simply taking the dogma of a leader, is incalculable. The treatment of any pelvic abscess simply by puncture and drainage through the vagina is, at best, a slow procedure and, I fear, will not give a measure of success comparable with the discomfort it so often entails.

In the light of the originality of its conception and importance, it would be unjust to conclude this paper without referring to the method of using hydrogen gas in the localization of intestinal wounds. This idea offers a still further field for investigation, and renders the surgery of gunshot wounds at once simpler and safer.

DR. THEOPHILUS PARVIN: My remarks will be chiefly in reference to the treatment of extra-uterine gestation. Quite agreeing with the writer that the certain diagnosis of this condition in the early weeks is impossible, and that the great majority of cases are recognized only after the rupture of the gestation cyst, I must think that those instances in which early recognition was asserted were altogether exceptional, and the recognition only a conclusion of probability, or a fortunate guess.

But an extra-uterine gestation being known, the question of treatment immediately presents itself. Different answers to this question are given. What may be called the American method, because more employed in this country than in any other, owes its origin to Dr. J. G. Allen, of this city, who successfully employed the faradic current for the purpose of destroying the life of the fetus. One of the criticisms made upon this method of treatment is that the proof of the extra-uterine gestation fails in that no product of conception is revealed, the *corpus delicti* cannot be found; there may be as many as two or three exceptions—that is, some time after fetal life has been destroyed an abscess has communicated with the exterior, and parts of the fetus been discharged. Nevertheless, the question has been asked whether, in the long list of cases in which electricity was employed, with such unusual success, there were some in which the fact of pregnancy was not conclusively proved.

In regard to those few cases of asserted intersti-

tial pregnancy in which the fœtus entered the uterus, obedient to the electric stimulus, and then was expelled through the natural passages, I must confess to the least skepticism as to the correctness of diagnosis in all, for such a uniformity of successful results, the fœtus in all cases behaving so well, seems extraordinary. Is it not at least probable that, in some instances, the rupture of the cyst would be into the abdominal, instead of invariably into the uterine cavity?

The injection of morphia into the fruit-sac, for the purpose of destroying the life of the fœtus, is a method regarded with favor by some eminent German authorities. Even if always successful and devoid of danger, the same theoretical objection which has been made to the treatment by electricity applies to it. There are still other objections to both methods.

There remains the treatment by abdominal section. Now, this is applicable to cases of ectopic gestation, whether rupture has occurred or not, though in the former, it seems to me, it is imperative. Others beside Mr. Tait have had valuable experience in the surgical treatment of this affection, though none, probably, a tithe of his; thus, Worth has operated seven times with six recoveries, and so firmly convinced is he of the importance of abdominal section that he declares an extra-uterine gestation ought to be treated as a malignant tumor—that is, extirpated at the earliest moment.

At the Philadelphia Hospital, quite recently, the abdomen of a woman was opened on account of rupture of a gestation cyst. A large amount of clotted blood was found in the abdominal cavity, but no bleeding points discovered, and therefore no ligation of vessels was done, or extirpation of the fragments of the cyst. The woman's chances for recovery were vastly increased by the thorough cleansing of the abdominal cavity. After having witnessed several operations for extra-uterine pregnancy performed with great skill, and the results being uniformly favorable, I am more and more convinced that this is the method of treatment for all cases, the only exceptions being an abdominal pregnancy so far advanced that there would be hope of extracting a living child at term, and then the operation might be deferred until near the close of pregnancy, and an unruptured interstitial pregnancy.

A word as to tubal collections of pus in puerperal septicæmia. I cannot believe this is frequent, either from the few post-mortems of women dying of puerperal fever which I have seen, or from my reading; in the last edition of Schröder's *Obstetrics*, 1888, for example, it is stated that occasionally, or sometimes, such collections are found, I cannot, therefore, hope that any great diminution of the mortality of puerperal fever will come through removal of pus-filled tubes. The brilliant results obtained by Mr. Tait, and many

operators in this city whom I might name—the almost total exemption from mortality which their statistics show, must not mislead us, for there are dangers in abdominal sections, and patients may die shortly after a so-called successful operation. Thus, a little more than two months ago, in conversation with Dr. Lombe Atthill, of Dublin, he told me of a lady operated upon by a distinguished surgeon, and she perished from hæmorrhage a few hours after.

The treatment of pelvic abscesses by abdominal section is, of course, a valuable addition to therapeutic means. But are all intra-pelvic inflammations with suppuration amenable to this means? Given a case of inflammation adjacent to the uterus, the parts matted together making a resisting mass as large as the two fists, or larger, the patient suffering from the peritonitis, and having fever, can the offending pus be safely reached through the opened abdomen? Then, too, are there not other limits to the employment of abdominal section in diseases of women? I do not object to the removal of the tubes in cases of pyosalpinx, on the false ground that the woman is thus rendered sterile, for a tube so diseased can never have its functions restored—it is, hopelessly, remedilessly ruined. But what of the removal of the ovaries for pain, or for certain nervous disorders? Does such removal cure, or even palliate in the majority of cases? Here is a question that demands careful and large investigation. Doubtless, some cases of so-called menstrual epilepsy are benefited by the operation, but it is doubtful whether many absolute cures result. It may be questioned, too, whether pain in the ovaries, the organs being otherwise normal, the so-called ovaralgia, demand their extirpation. I have seen a woman whose ovaries had been removed on account of pain; the suffering returned as severely as ever, and then the stump of each pedicle was taken away, but not the slightest benefit followed—a year after the last operation she was as bad as before the first. I have myself removed the coccyx for well-marked coccygodynia, and for a time the benefit was marked; and then came just as severe pain in the sacrum as there previously had been in the coccyx. Let us honestly and impartially look at both sides of the picture, see the dark as well as the light offered, and not be carried away by contemplating only the latter.

DR. M. PRICE: I agree with Dr. Parvin and the writer that the diagnosis of extra-uterine pregnancy in the earlier period is simply a lucky guess. I must differ from Dr. Parvin, however, when he doubts the feasibility of operation in a pelvis full of a great mass of inflammatory thickening. No matter how great the mass or how extensive the adhesions, unless malignant, it can certainly be removed. I have had no trouble in tearing away adhesions until the mass in the pel-

vis was reached, a diseased tube found and removed, abscesses opened and drained. I have seen but one bad result and that was from the deprivation of food and stimulus; the nurse absolutely robbing the patient of it, a fact I did not discover until too late. I have encountered hæmorrhage from the tearing of adhesions but once, in which case it was controlled by three ligatures on the bowel itself. The cause of hæmorrhage in most cases of abdominal section is imperfect ligature. The ligature slips and the patient bleeds to death. In tearing adhesions from the broad ligament I once ruptured a vessel as large as the radial artery. I had no trouble from this after it was properly secured in the pedicle. The button is sometimes cut too short: the ligature which is holding the uterus between the broad ligaments like a guy rope cannot stand the strain, the pedicle slips out and the cavity is flooded. Here is one advantage of the drainage tube. It gives warning of such an accident. The nurse ought to be trained to recognize warnings so that the operator may be summoned without loss of time.

The question of antiseptics in these operations is an important one. I must protest against statements upon this floor that operators who fail to use chemical antiseptics should be held criminally responsible. I say they should never be used in the peritoneal cavity. They increase the risks and never benefit the patient. Cleanliness and readiness for emergencies are the requisites for abdominal surgeons. Mr. Bantock, and Mr. Tait since he has abandoned Listerism, have results fully as good as any operators in the world. Such statements must not be permitted. They bring danger and trouble upon fellow practitioners conscientiously striving to do the very best for their patients, and, therefore, rejecting antiseptic solutions, as dangerous in themselves, and as leading to dangerous neglect of cleanliness by a sense of false security.

DR. JOHN B. ROBERTS: I am one of those surgeons who believe that any person who undertakes surgical operations at this stage of the world's history assumes a grave responsibility, is guilty of a wrong to his patient, if he does not guide himself by modern teachings in regard to the prevention of septic accidents. At the same time I think that Dr. Price and others who think with him, are giving themselves unnecessary anxiety as to the force in jurisprudence of the expressions made upon this floor and elsewhere by surgeons who give voice to the modern theories of operators' responsibilities. The word antiseptic is misconstrued. It does not necessarily refer to chemical agencies. The point is, shall we have the old septic surgery or the modern non-septic surgery? So that infection be excluded it makes no difference whether we exclude sepsis by chemical agents, by heat, or by absolute clean-

liness. Under the influence of the teachings of Dr. Price and his brother and the results obtained by them and by their pupils, I have resorted with confidence to distilled water in abdominal and pelvic work. But that is simply a substitution of heat as an antiseptic agent; and it is antiseptic surgery that Dr. Price employs, or aseptic surgery if he prefers that term, when he takes scrupulous precautions to secure absolute cleanliness of hands and instruments and all the details of the operation. There is no necessity to quarrel about words. The fact is that it is the consensus of opinion of the men of the day who have a right to express opinions upon this matter, that the surgeon is bound to protect his patients by those means in which he has greatest confidence against the risks of sepsis, and that any operator who neglects this is guilty of a crime; and it is well to have that distinctly stated here and in all medical societies until the whole body of the profession realize that it is a cardinal principle of surgery. As I said before, we do not and need not pin our faith to chemical agents, though I am among those who find use for chemical agencies, but we must insist upon non-sepsis and then we will have the best possible results.

DR. H. A. KELLY: Some of my growing experience has led me to differ from some of the details of procedure recommended. Above all I do not think it imperative nor wise to operate upon pus-containing tubes and ovaries as soon as discovered. These cases are, with few exceptions, chronic in their course; I operated last spring upon a woman who had carried a pelvic abscess for nineteen years. The natural history of this disease is one of attacks of recurring localized peritonitis. During the attacks patients are very much prostrated and the danger of operation increased. I know of no other cases which improve so much and are so amenable to treatment. With rest and the use of hot water we will, after a few days or a week or two, find the great mass of fresh inflammatory deposit gone, and are then able to make out the outlines of the diseased uterus and tubes which we now find movable, and we can proceed to operate under more favorable circumstances. Where rupture has occurred and the inflammation is general, delay is fatal. Opening a sac which points into the vagina is in some cases far better and safer surgery than abdominal section. In a case which had been mistaken for typhoid fever, and in which an excellent gynecologist had clearly diagnosed pelvic abscess, but wisely declined abdominal section on account of her prostrated condition, I operated *per vaginam* in September. After determining by palpation the point of greatest fluctuation, I separated the anterior and posterior walls of the vagina by Simon's specula and, gently lifting the cervix, without making traction, burned a hole into Douglas' cul-de-sac, which was filled by the tumor, opening a

pus sac containing more than a pint of pus, washed it thoroughly, drained, and douched daily. The patient made an excellent recovery, walking into my office this morning. She was too weak for abdominal section and her life was thus saved.

Three years ago I was able, before rupture, to diagnose tubal pregnancy. I operated before rupture, and I have the fetus in my possession now. A pathognomonic sign, which we do not wish to wait for, is diminution, while under observation, in the size of a cyst presenting the other signs of extra-uterine foetation, due to absorption of the amniotic fluid. It only occurs after the death of the fetus. I am not a warm advocate of electrolysis, but it is an absurd mistake for an English writer to think that in America the sac is punctured in the operation of electric feticide. The great difficulty with many cases put down on the lists as ruptured tubal pregnancies is that sufficient evidence is not presented to show us that the cases actually were pregnancies. Where the fetus is not found we want more than doubtful microscopic signs.

Among the recent advances in abdominal surgery I would call attention to an operation which I have devised to avoid the dangers of sepsis and hæmorrhage, and the dangers and annoyances of the extra-peritoneal clamp method of treating the stump in supra-pubic hysterectomy. I liberate and deliver the tumor with the uterus, and constrict the pedicle with a rubber tube, then trim off the tumor above the tube leaving a cupped stump. This I very carefully bring together by a continuous buried suture, beginning at the bottom, which runs to and fro on the stump until it is closed, so that the top of the stump now looks like the mouth of a purse. Then, raising this, I pass a stout ligature deep into the uterine tissue on either side below the rubber tube with a sweep of my needle, and, by tying this, ligate the uterine artery; then I cut the constricting tube, and if there is any hæmorrhage from the lips of the sealed canal, I pass another deep ligature on either side which controls all oozing. The abdominal cavity is now completely closed by stitching the peritoneum of the wall to the peritoneum of the stump, *above* the ligatures on the uterine artery, and leaving the sutures, which thus unite the two peritoneal surfaces, long. A gauze dressing is put over the whole. These ligatures are brought through a hole in the gauze and clamped in a pair of ordinary long-bite dressing forceps, effectually preventing dragging and inversion. These sutures can be cut in seven to nine days. The result is perfect. My friend, Dr. Polk, tells me he has a plan in its essentials very similar to this.

DR. J. M. BALDY: I quite agree with Dr. Parvin that it is a happy guess if we diagnose tubal pregnancy before rupture. In a case seen a year or more ago, all the signs which we

would expect in a case of extra-uterine pregnancy, were found present and a diagnosis made in accordance with these facts. An ovarian cyst was found at operation. It is claimed that such a mistake would not take place if due care were used. But such a well-known authority as Mann, of Buffalo, has made such a mistake; he treated his patient with electricity, killed the fetus, and later the case was operated on by Wylie, of New York, and no signs of extra-uterine pregnancy found. Dr. Kelly speaks of a shrinkage of the sac from absorption of the amniotic fluid being a pathognomonic sign of this disease. I have never heard of this being advanced as a sign by any one else, nor can I conceive of its occurring. Puncture, as a treatment, can be mentioned only to be condemned. Electricity has the advantage of being able to kill the fetus and of saving the woman from the horrors of a severe surgical operation. It, however, has its disadvantages; a mass is always left behind which will be likely to cause all the dangers that any other pelvic disease may; it often ulcerates out and it leaves the patient as much unsexed as the operation would. I think the gentlemen who remove other pelvic troubles with the knife and leave this one, are more than inconsistent. Again, rupture of some of the vessels in the sac wall may take place. Mann thinks that these dangers should not be taken into account, but as they form together quite a large per cent. of the total number of extra-uterine pregnancies, what sane man dare disregard them? The electrical treatment has its positive and immediate dangers. Janvrin has lost a patient by rupture of a blood-vessel, after killing the fetus. An electrical current passed through some pelvic growths always makes the patient worse. I have seen this happen in the hands of an experienced electrician, the patient being worse after every treatment. With the knife, no case has ever been killed, and when the operation is over no subsequent trouble can follow. The trouble can always be removed in the early periods. As soon as a probable diagnosis is made, a surgical operation should always follow.

In regard to operations for abscesses, I do not share Dr. Parvin's views, I think these large adherent masses can always be removed without danger, and that such should be their treatment. After once beginning the operation I should much more fear leaving it, than removing it at any cost: it is the incomplete operation which gives us the worse results. On the other hand, I most heartily agree with Dr. Parvin, that only *diseased* organs should be taken away. If the operation for vague pain, epilepsy, insanity, and nervous diseases has any place, it is only after the most careful consideration and consultation, and in the most conservative hands.

With regard to the fibroid tumors, I think with

Dr. Kelly that the extra-peritoneal method of treating the stump is a long and disagreeable one on account of the sloughing. The intra-peritoneal method, which I had the pleasure of seeing Martin do several times in Berlin, is in every way preferable, if we can do it with equal safety. Although my cases treated extra-peritoneally have gotten well, I see no reason why those done by the other way should not also, and I shall be tempted to try it at the first opportunity. The method Dr. Kelly proposes is a half-way one, and loses some of the advantages of both the others, without gaining very much.

And now, Mr. President, one word in regard to antiseptics, since the subject has been brought forward so prominently again. My convictions on this subject are very strong, and are the result of much and very earnest hard study. I believe most firmly that germicidal agents used in the abdominal cavity are not only useless, but most positively harmful. At all events this subject is not to be considered closed: it is open to discussion and trial, and I most earnestly protest against any such sweeping statements as have been made on this floor by Dr. Gross in times past, going before the world as the final dictum of this Society. Personally I never use chemical agents in my surgery, and I have the best of results. There are a number of other gentlemen in this city who follow the same practice. I will pick five or six such men and compare their results with those of any other six operators in Philadelphia, and if our results do not equal or better those of our opponents, I will concede the point. In view of these facts Dr. Gross and others have no right, by any such statements as they have made, to put us in the position to be taken into court in a malpractice suit: this is exactly what such absurd statements will lead to. If a surgeon goes to an operation with dirty hands, an eighth of an inch of dirt under his finger-nails, dirty instruments and what not, because, forsooth, he has dipped his hands and instruments into solution of carbolic acid or corrosive sublimate he is to be exempt from responsibility; but those of us who have probably spent days carefully preparing for an operation, studying every detail and taking every rational precaution, because we do not choose to follow this absolute dictum of our wise masters, must be held responsible. Does any sensible man think that these solutions really penetrate the dirt under some operators finger-nails and disinfect them? For my own personal safety sake, Mr. President, I must protest against the assumption of these men.

DR. GEORGE E. SHOEMAKER: In regard to the diagnosis of extra-uterine pregnancy before rupture, the remark of Mr. Tait quoted by the writer is often referred to, but is not of as great weight as might at first appear. Mr. Tait has not said

that he has failed to recognize a case, but that he has not seen one. One difficulty is this: Mr. Tait, for example, is an operator, not a man in general practice, and would be likely to see only cases brought him by others. These cases often occur in women previously healthy, their early symptoms are not very striking, therefore they are not in the hands of the general practitioner, and are not brought to the notice of the expert diagnostician. The latter then is not at fault. A case was recently reported in the *Medical News* in which the diagnosis was made before rupture, and in which operation proved it correct. I believe that if the general practitioner called an expert consultant early, and carefully chose the expert, the true nature of the case would be recognized in a far larger proportion of instances.

DR. M. PRICE: Dr. Kelly's treatment of the pedicle is no more intra-peritoneal than if the wire clamp was used, and not half as safe. The ligature to pull up the stump in case of need is an additional objection.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

Laparotomy in Pyosalpinx—The Digestive Ferments.

At the last meeting of the Section on Obstetrics and Gynecology of the Academy of Medicine Dr. H. J. Boldt made a strong plea in favor of *Laparotomy in Pyosalpinx*, on account of the danger of fatal septic peritonitis resulting from rupture of the distended tube; and, in case of the occurrence of general peritonitis, of opening and thoroughly washing out the abdominal cavity at the earliest possible moment. The subject of his paper was the "Treatment of Suppurative Disease of the Uterine Appendages," and he said that cases of such disease might be roughly divided into three groups: 1, those in which an operation is altogether unjustifiable; 2, those in which it is the wiser course to keep the patient under treatment for a time, in order to observe what benefit may thus be derived, before finally deciding as to the advisability of operating; and 3, those in which delay is not only unadvisable but fraught with danger. No one could be more opposed than he to the indiscriminate removal of the appendages, which had unnecessarily unsexed so many young women; but, while some gynecologists had no doubt gone to extremes in operating, he thought others had gone to extremes in the opposite direction.

His views were largely based on personal experience, and some of the cases from which they were derived he related. The first was that of a

woman 36 years of age, whose trouble dated back to the birth of a child two years after her marriage at the age of 20, but who had grown worse since five years ago, when she was infected with syphilis by her husband. The diagnosis made was double salpingo-oöphoritis syphilitica with endometritis, and operation was advised if improvement did not result from a few months' treatment. A month later a fresh attack of pelvic peritonitis occurred as the result of unusual physical exertion, and five days afterwards, on being summoned to see the patient, he found her to be suffering from general peritonitis. At this time the distended tubes, which before could be distinctly mapped out by the fingers, had lost their contour, while in the position which they formerly occupied a general fulness was found; and there could be little doubt that the peritonitis was due to their rupture. The patient was removed to the hospital on the same day but, unfortunately, he did not make up his mind to operate until the following afternoon, when an experienced colleague concurred in the diagnosis and the course to be pursued. At 9 P.M. he performed abdominal section; when the diagnosis made was confirmed. The cavity was thoroughly washed out, and a Sims drainage tube placed behind the uterus; washings being made afterwards at frequent intervals. For thirty-six hours the patient did well, but she then began to sink, and sixty hours after the operation died in collapse. In connection with this case Dr. Boldt expressed great regret at not having operated earlier, and also said that, while admitting that home care among the poorer classes was vastly inferior to hospital nursing, he should not again expose a patient suffering from general peritonitis to the risk of removal to a hospital, but in every case take his chances of watching it at home.

The second case, which came under observation May 25, 1887, was that of an unmarried woman 29 years of age, who had never been pregnant, and who gave the history common to cases of salpingitis previous to her present illness. On April 21 she was suddenly seized with severe pain in the lower part of the abdomen, which gradually increased in intensity for some time, and then began to subside. On May 23 she again became worse, and on examination it was found that she had general peritonitis. The seat of the most intense pain was to the right of the uterus, where a fulness and slight fluctuation were appreciable. The diagnosis was septic peritonitis from the rupture of the right Fallopian tube, in which pyosalpingitis had previously existed, and this was confirmed when laparotomy was performed on the following day. The abdominal cavity was thoroughly cleared of pus, but the hæmorrhage was so profuse from the points where the adhesions were separated, and the patient's condition was so poor that, instead of attempting to secure the bleeding points individually, he tamponed all that

part of the pelvis from which the hæmorrhage came with iodoform gauze. The patient rallied remarkably well after the operation; the iodoform gauze tampon acting admirably as a drain and as a hæmostatic. Thirty-six hours later it was removed, and a hard rubber double current drainage tube, through which the abdominal cavity was washed out, inserted in its place. Afterwards she began to fail, and on the seventh day she died. The autopsy showed diffuse nephritis, but the pelvis was perfectly clear, and it was found that a decided diminution in the peritonitis had occurred. Since that case he said he had several times had occasion to observe the efficacy of the iodoform gauze packing in profuse intra-abdominal hæmorrhage when every other allowable means would have positively failed; and he believed that if in this instance he had finally closed the wound at the time he removed the tampon (not introducing any drainage tube at all), the patient would have recovered.

The third case was that of a young woman 23 years of age, who had been married eighteen months, and had a child one year after her marriage. The diagnosis was endometritis and double pyosalpinx, of puerperal origin. Both tubes were felt enlarged, and the right ovary was about the size of an English walnut. The uterus was displaced anteriorly and lacerated bilaterally. One day he was hastily summoned to see the patient, who had been seized with a very severe attack of abdominal pain, accompanied with vomiting. She was suffering from slight shock, but there was no evidence of intense general peritonitis. The enlarged tube could no longer be felt on the right side, and the diagnosis of rupture of a pyosalpinx was made. Within two hours after first seeing the patient he opened the abdomen, and the diagnosis was confirmed. Peritonitis had already begun, but after thoroughly cleansing the abdominal cavity he closed the wound, using no drainage, and the patient made an uninterrupted recovery.

The fourth case was also that of a young woman with double pyosalpinx of puerperal origin. Operation was advised, but the patient did not consent. Some time afterwards she was attacked with intense abdominal pain and tympanites, and the diagnosis of commencing peritonitis from rupture of one or both tubes was made. Abdominal section was promptly performed, the cavity thoroughly cleansed and the wound closed. Although the peritonitis had made considerable progress for such a short time, the patient made a complete and rapid recovery. In this instance one tube had ruptured, causing the attack, and the other became ruptured during removal.

Dr. Boldt said that, exclusive of the deaths that he had mentioned, he had twice within the last two years seen cases on the post-mortem table which had died of purulent peritonitis distinctly

attributable to a ruptured pyosalpinx; and he then described these also.

His conclusion was that abdominal section cannot be too strongly urged in every case of active pyosalpinx, from whatever cause it may arise, except in the rare instances where the uterine extremity of the tube is patent, so that pus can be squeezed out of the latter into the uterus; and excepting also those cases where, in addition to the tubal disease, the patient has some malady which will probably itself destroy life in a short time. If the distension of the tube were slight and gave rise to no morbid symptoms it was, no doubt, the wiser plan to wait, in the hope that the pus might become inert by undergoing cheesy degeneration. In other cases where the question of operation arose, massage, employed after the method of Brandt, was an excellent means of determining the patency of the tube and, should a communication exist between the tube and the uterus, it constituted, if properly practiced, a very valuable adjunct in the treatment. It might be, however, a very dangerous procedure in the hands of an inexperienced manipulator.

As to the diagnosis of pyosalpinx, he thought that a careful observer, experienced in this line of work, would not often make a mistake. 'The conditions from which it was usually necessary to differentiate were hydro- and hæmatosalpinx; but if the tubes were much distended, the question of ovarian or parovarian cyst would also have to be taken into consideration. The history of the case was often of the greatest importance in determining its true nature. While many gynecologists considered it unjustifiable to operate for hydro- or hæmatosalpinx, it was, unfortunately, an impossibility always to make the diagnosis before opening the abdomen; and, personally, it was his opinion that even cases of hydrosalpinx should be operated on if they give rise to serious symptoms which cannot be alleviated by other treatment, because the simple and inert liquid may take on purulent changes as the result of an inflammatory condition set up in the walls of the tube, or of the extension of endometritis. It was also a fact that, in consequence of their openings being blocked, the tubes might become distended to such an extent as to cause rupture, with the possibility of peritonitis resulting. In any case where pyosalpinx was supposed to exist and, laparotomy having been performed, it was found that hydro- or hæmatosalpinx was present, he was very positive that the tube should be removed (notwithstanding the fact that it did not at the time contain pus), provided that, at some point, it was firmly occluded from the effects of adhesive inflammation.

If we had reason to suspect active suppurative disease, laparotomy should be performed; from which procedure, even if our diagnosis should prove erroneous, not much harm would result to the patient. If the diagnosis of pyosalpinx were

correct, however, an immense advantage would be conferred upon the patient, since, in the first place, the operation removed the pain incident to the condition, and changed her from an invalid to a healthy individual; and secondly, removed the danger of rupture of the tube and fatal peritonitis. It was true that, at the meeting of the American Gynaecological Society in 1887, a prominent German operator (Martin, of Berlin), had stated that his mortality from salpingo-oöphorectomies was over 12 per cent.; but it was to be borne in mind that the cases selected by him for operation were extremely unfavorable, since he always waited very long, and exhausted every other means of treatment, before resorting to it. It was against this very long waiting that Dr. Boldt said he desired to protest. Why let a patient suffer so long when, from the history and the physical examination, we have satisfied ourselves that she is suffering from a condition not amenable to non-surgical methods of treatment?

Prof. R. H. Chittenden, of the Laboratory of Physiological Chemistry at the Sheffield Scientific School, Yale University, recently presented his observations on the *Digestive Ferments* to the Pediatric Section of the Academy, and if his researches in regard to diastase are to be accepted as conclusive, the result will be a pretty hard blow to the various manufacturers of malt extracts who base the special value of their preparations on the large amount of this ferment which they contain. There was, he thought, no branch of medicine where an accurate knowledge of physiological processes was so necessary as in the pathology of digestion; and of late years chemical science had thrown much new light on the character of the digestive juices and on many hitherto obscure points in the metamorphism of the various food stuffs.

With all our present knowledge, however, he said we could not add much to the definition of a ferment current in the 14th century, viz.: "a force which without becoming weaker itself can produce great effects in other mains." While this was not strictly true, we could only wonder at the marvellous power often displayed by an infinitesimally small amount of a ferment, and endeavor to explain its method of action by the word catalytic, a term which clearly exposes our ignorance while it fostered our self-esteem. The amylolytic and proteolytic ferments were alike in that they act only in the presence of water, that the products of these, as a rule, contain more oxygen and hydrogen than the original matter, and that their action is most energetic at the body temperature. These two classes of ferments differed, however, in the character of the medium in which they act; the amylolytic being most energetic in a neutral fluid and wholly inactive in the presence of free acid, while pepsin acted only when in combination with an acid. Trypsin, also a pro-

teolytic ferment, on the other hand, acted best in an alkaline medium, although active also in a neutral fluid. These ferments were extremely sensitive to the action of foreign matters, and the simple changes of reaction from acid to alkaline, and *vice versa*, met with in the alimentary tract were sufficient to destroy the different ferments as they were exposed to the changed conditions in their journey onward; so that it was no doubt true that only such escaped destruction as were absorbed and ultimately excreted through the kidneys.

In presenting some of the results of his observations he insisted, very properly, however, that it was always to be borne in mind that the living alimentary tract is a somewhat different mechanism from a glass beaker, and that in the former we have to deal with a complication of conditions not met with in artificial digestines. When considering the action of the amylolytic ferment he took the ptyalin of saliva as an illustration of a normal digestive ferment, and the diastase of malt as a good example of a common remedial agent. In spite of its normal reaction being alkaline, the power of human saliva in digesting starch is far greater when the fluid is exactly neutral than when alkaline. The same is true of diastase, and when the alkalinity of the fluid is increased in either case the amylolytic action of the ferment is retarded in proportion to the amount of alkali carbonate present. The greater the dilution the greater the retardation, and dilute alkalies not only hinder the action of these amylolytic ferments, but also destroy them, especially at the body temperature; although their destructive power is not as great as their retarding action. Peptones and proteid matters in general, however, tend to diminish, and even prevent, in fact, the retarding and destructive action of the dilute alkalies. Hence, in the intestinal canal and elsewhere where the products of proteolytic action or the other forms of proteid matter are present, the amylolytic ferments can no doubt endure the presence of amounts of alkalies which alone would quickly lead to their destruction.

Towards acids both ptyalin and diastase are even more sensitive than towards alkalies. It had been generally held hitherto, and even now was to some extent, he said, that both these ferments regain their power of transforming starch into sugar when they reach the small intestine; this view assuming that in the stomach the activity of these ferments is simply suspended by the acidity of the gastric juice. He was quite convinced from his experiments, however, that the presence of a few thousandths of one per cent. of free hydrochloric acid is sufficient to quickly stop all amylolytic action; though it was to be remembered that because a fluid reacts acid to test papers it does not necessarily follow that it contains free acid. Hence the question of retard-

ation and destruction of amylolytic ferments in the stomach required further consideration. It was necessary to know how the presence of proteid matter affects the action of the acid of the gastric juice; and it was found by experiment that nearly all forms of albuminous matter prevent to a certain extent the destructive action of the acid. The acid-proteids formed, however, had more or less of a destructive action themselves, and when all the proteid matter present in a given mixture was completely saturated with acid (although no free acid might be present), the amylolytic ferments soon lost their power, and in a short time were completely destroyed. It followed, therefore, that the proteids of the food probably protect for a time the ptyalin or other amylolytic ferments, introduced in a very short time, by combining with the hydrochloric acid as it is secreted, these must become saturated, and free acid be present; and as soon as free hydrochloric acid is present, if not before, a rapid destruction of the amylolytic ferments will take place. To this destruction must be added the slower action of the acid-proteids.

There was, he thought, among many physiologists a growing impression that for from fifteen to thirty minutes after taking food an active digestion of starch goes on in the stomach. Ewald and Boas, however, had found that when starch paste was eaten free hydrochloric acid appeared very quickly—sometimes within ten minutes. These same investigations had also confirmed in part the statements of Prof. Chittenden regarding the action of acids in the amylolytic ferment of saliva by a series of interesting clinical experiments. The most important point in connection with these was the fact that such conversion of starch as did occur in the stomach under the circumstances noted took place during the first five minutes; the amount of sugar found in the ejected fluid being the same at the end of five minutes as at the end of twenty minutes. Furthermore, the amount found was quite small, indicating that the ferment was quickly stopped in its action by the acid present. He thought it could be safely concluded, therefore, that the action of the diastatic ferments can at best continue only for a short time in the stomach, and that the cessation of the amylolytic action is quickly followed by destruction of the ferment, through the action of the free and combined hydrochloric acid. Hence it was obvious that the administration of diastatic ferments, however active, by the mouth, with the intention of supplementing the pancreatic digestion of starch in the small intestine, can be of little value, since the ferment must inevitably be destroyed before reaching the seat of action.

The extreme sensitiveness of the amylolytic ferments towards acids, he went on to say, is substantiated by their behavior towards many common therapeutic agents. Many of the so-called

antiseptics and germicides likewise show marked action on these ferments. The bichloride, iodide and bromide of mercury all retard the action of the amylolytic ferments, even when present in only a few thousandths of 1 per cent. Mercuric cyanide, however, appears to increase their solvent action when present in small quantities; though larger percentages of it retard it. Sulphate of copper has a very marked inhibitory action, while acetate of lead has a retarding action only when present to the extent of 2 or 3 per cent. Arsenious oxide and ammonium arsenate in small fractions of 1 per cent. assist amylolytic action; but arsenious acid retards it. Tartar emetic in small amounts has a marked stimulating effect; large amounts, as 50 per cent., may noticeably diminish the quantity of sugar formed. Chlorate of potassium in small quantity increases the action, and the presence of even 5 per cent. of it has only a slight retarding effect, the same is true of chloride sodium. Many of the alkaloid salts have a stimulating effect, notably the sulphates of morphia, quinia, cinchonine, cinchonidine, and atropia. Sulphate of strychnine, however, has a slight retarding effect, and the same is true of antipyrin and antifebrin. Urethan in small fractions of 1 per cent. has a slight stimulating effect, and in larger amounts a retarding effect. Thallin sulphate in very small percentages has a marked stimulating effect, while peraldehyde has a strong inhibitory action. Of gases, oxygen and carbonic acid both decidedly increase the amylolytic action, while hydrogen noticeably diminishes the action of the ferment.

In treating of pepsin, as the best known of the proteolytic ferments, he called special attention to the fact that the acidity of the gastric juice is mainly due to free hydrochloric acid. While at many times, especially in disordered conditions of the stomach, there are present in its contents lactic, butyric, acetic, and possibly other acids, these are to be looked upon as the product of various forms of fermentation, rather than as secretory products from the stomach cells. The strength of acid best fitted for digestion depends somewhat on the amount ferment present and the character of the proteid to be digested; and it is also to be remembered that while the proteolytic action ferment is most vigorous in the presence of hydrochloric acid; other acids, such as phosphoric, nitric, sulphuric, oxalic, acetic, lactic, hydrobromic and hydriatic, will to a greater or less extent take its place. Whenever bromides and iodides are taken into the stomach it is supposed that they are decomposed by the action of the gastric juice, with the formation of hydrobromic and hydriotic acids respectively; by which the retarding action of these salts on gastric digestion is produced. Hence, as a practical result, the bromides and iodides should be given half an hour to an hour before meals. There are

many diseased conditions where imperfect digestion is due as much to the want of necessary acid as to lack of ferment. Thus, in fevers, as a rule, a less active gastric juice than normal is secreted. The acidity is frequently diminished, and, therefore, as Ewald has remarked, there was some basis for the old habit of prescribing phosphoric or hydrochloric acid in fever mixtures.

The length of Professor Chittenden's valuable paper precludes any further recital of its contents. It can only be said, in conclusion, that he spoke favorably of the action of trypsin and pepsin as solvents of pseudo-membranes, and that he believed the latter of the two to be the more energetic agent in this capacity.

P. B. P.

WASHINGTON LETTER.

Materia Medica Department of the National Museum.

No visitor to the National capital interested in pharmacology should neglect to see the materia medica collection to be found in the south-west corner of the National Museum. The more liberal minded of our profession do not hesitate to acknowledge the truth that Dr. Oliver Wendell Holmes has enunciated with such forcible brevity in regard to the misfortune that would befall the fishes and the benefit that would accrue to mankind, in case all medicines, with but few exceptions, were sunk in the sea; but as the effect of age with a certain amount of misfortune and sickness are incident to all pursuits and conditions of life, it is the part of wisdom to try to deaden their blows. Perhaps in no department of life have human foresight and human wisdom been more exercised than in finding remedies for the various ills of humanity, and as long as the race exists mankind will be interested in the materials and methods used for the prevention and cure of disease, and it may be further remarked that there is no fairer gauge of the intellectual development of a people than that afforded by the remedial measures in use.

The museum scheme of classification having provided a place for a collection of all the substances furnishing medicaments, Dr. J. M. Flint, of the Navy, has, with commendable diligence, arranged and classified an exhibit of not only all the official and galenical preparations, but of a second exhibit of Chinese and Korean medicine, and the medicines of the North American Indians, which in a sense bear the same relation to the former exhibit that a teratological collection does to the other specimens in an anatomical museum.

It would be superfluous to mention by way of praise the intelligent discrimination shown in classifying the collection, which speaks for itself in such a way that the visitor, like the stranger at St. Paul's Cathedral, has only to bear in mind

the admonition to look around in order to see the monumental success that the curator has achieved.

From Dr. Flint I learn substantially that in considering the physical relations of his collection he has arranged the animal products according to the zoological position of the animal from which the drug is derived, following the usual classification, and beginning with the *class* Mamalis, *order* Carnivora. The vegetable products are classified to the botanical affinities of the plant furnishing the drug. Products of fermentation and distillation, including the products of the acetous and vinous fermentations, and the derivatives, chloroform, ether, and the like, as well as distillates, such as carbohc acid, pyroigneous acid, etc. Inorganic products are arranged according to their fundamental elementary constituents, following the classification of the chemical elements.

As a whole the collection already represents the principal drugs in most of their commercial varieties in present use among civilized people, including most of the new remedies that have lately been introduced to the notice of the profession.

Without going into further details regarding this interesting collection, we may summarize what has been accomplished. The organization of the *Materia Medica* section of the Museum is complete; the classification has been established in its details; over 5000 specimens have been received, examined, and registered, and most of them bottled and arranged according to the classification; the whole collection has been provided with temporary labels, and over 600 specimens with permanent labels, each requiring a study of the specimen and of the literature regarding it; illustrations of most of the medical plants have been obtained and more than 500 of them mounted and on exhibition; a medical herbarium has been commenced and its development is assured; a complete catalogue of this collection has been made, by means of which any specimen on exhibition may be readily found, and a considerable library of reference has been formed; the Pharmacopœas of nearly all nations have been obtained, and half the work of compiling a compend of sixteen of them is done.

In the future development of this section of the Museum a wide field is open for valuable work. The collection as it now stands includes samples of the great majority of the drugs found in the commerce of the country, as well as many specimens of rare drugs or varieties known only to foreign medical practice. It remains now to make use of the prestige of the scientific institution with which the Museum is connected, and of the ready means at the disposal of the National Government, through the naval and consular services, supplemented by personal correspondence with importers and their agents, and foreign scientists and

travellers, to gather materials and information that shall be rare and valuable. Much is still to be learned regarding the source and mode of production of many of our standard drugs, and new remedies of doubtful origin are constantly appearing in the market. For the increase of our knowledge of these substances, for the investigation of these questions of doubt, no more favorable conditions can be conceived than those here existing, namely, a great Museum under the patronage of the Nation, associated with a scientific institution of world renown, having correspondence with all parts of the world and friendly relations with scientific establishments in all countries.

R.

Migration of Foreign Bodies.

Dear Sir:—THE JOURNAL for January 19 contains a notice of the "Migration of a Needle." The strange coincidence of reading about this case, and having passed through some little experience coming under the same head, I take pleasure in presenting the facts in the case for the information of your readers. The literature on foreign bodies found in all parts of the body is so profuse and general, that it necessarily requires something more than the ordinary daily routine of cases to be of sufficient interest to place the facts upon the pages of some medical journal.

The history of cases is generally shrouded in doubt and uncertainty. It is always well to listen to the details, and then digest the facts. One case of an ordinary pin escaped the closest examination in the throat of a woman for *eleven years*. The case was subjected to repeated and minute inspection at the hands of able and competent practitioners. The patient had repeated and severe attacks of trismus, lasting for days; the salivary glands were swollen, deglutition was difficult, thirst urgent, and sometimes a high grade of irritative fever. An abscess subsequently formed in the sublingual gland, from which, after an incision, I removed the pin, heavily coated with the ordinary deposit peculiar to the secretion of the gland.

Another case of a portion of a needle traversing the body of a man for seven years, and upon one occasion, in withdrawing his arm from his coat, the movement was suddenly arrested, accompanied with an attack of pain. The needle had protruded through the skin and caught in the lining of the coat; its removal was prompt and easily accomplished.

In the case of a fat, healthy baby sliding over the floor, after several days' crying and fretting, with repeated severe applications of the mother's hand to the very part of suffering, a close examination revealed the presence of a foreign body. With a bistoury passed through a fold of integument I withdrew, with a pair of forceps, a full

No. 7 needle, much to the comfort of the child, to the surprise of the lookers-on, and a certain rebuke to a very unkind mother.

The case to which I specially desire to call attention is the following:

In the afternoon of January 19, 1889, Miss S., æt. 18 years, was taking a lesson in dancing. While moving over the floor to the strains of the waltz music she was suddenly seized with the most violent excruciating pain in the right iliac region. She was carried into the adjoining room in an unconscious condition. The lookers-on describe her appearance as terrible and alarming. After the lapse of ten or fifteen minutes a transfer was ordered, and by a slow process of movement she was conveyed to her home. I saw her at 6 P.M., lying upon a lounge, with her limbs so decidedly flexed upon her body that I at once suspected either peritonitis or a hernia. She could not be touched, her pain was so intense. I insisted upon the removal of her clothes and the placing of hot poultices over the abdomen, gave $\frac{1}{4}$ gr. morphia internally, directing the mother to send for me after she had been placed in bed, and especially if any evidence of a swelling was visible. I was summoned to her home at 8 P.M. I at once completed my examination; seemed to feel a sigh of relief when I discovered that it was not a hernia. Immediately over the ileo-cæcal region I found a small prominence, which to the touch evidenced a foreign body. In moving the finger downward a sense of relief was imparted to the patient, and any movement in the opposite direction gave rise to intense pain with loud screams from the patient. The proof seemed so positive that we had a foreign body and its prompt removal was beyond any doubt, that I at once began a series of questioning as to what it might probably be. The patient had no knowledge of ever having swallowed anything like a pin or a needle—was positive no needle had ever entered any part of her body. The location left no doubt in my mind that it was evident that it had escaped from the bowel. If this surmise was correct, what did it mean—certainly a great risk of traumatic peritonitis. Having a full knowledge that the *laparotomies in our county* had not been blessed with very flattering results, I explained the case in all its bearings to her family and suggested a consultation with some of my colleagues. I called to my aid Drs. G. T. and G. S. Carpenter, who coincided at once with the full nature of the trouble and the importance of prompt surgical interference.

The patient was placed under the influence of chloroform, the necessary details of antisepsis were brought into requisition, and after making an incision, immediately over the projection, through the fatty tissue, and gentle manipulation with a pair of forceps, a portion of a needle was withdrawn—black and thoroughly corroded—measur-

ing one and three-eighths inches in length. The wound was sutured, dressed antiseptically, and the patient placed in bed.

The patient had $\frac{1}{8}$ gr. morphia with $\frac{1}{4}$ gr. of calomel every two or three hours, as required. No bad symptoms supervened. The wound healed kindly, and at this writing the patient is perfectly well.

We have no evidence as to how or when this needle entered the body of the patient.

I have the record of a number of minor cases, the removal of pins from the upper part of the larynx, from the ears, etc., which are commonplace items for the general practitioner, so I will not intrude them upon you. Very truly,

D. W. BEARD, M.D.

Pottsville, Pa., Feb. 5, 1889.

The Necessity of a More Careful Study of the Pulse.

Dear Sir:—There are many reasons why a careful study of the pulse demands the attention of the general practitioner of medicine at this time. Among these permit the writer to name the following:

1. The pulse is disturbed by almost every departure from a normal state of health.
2. The pulse is recognized as a symptom in every abnormal manifestation.
3. To examine the pulse and determine its value as a symptom is one of the first duties of the physician at the bedside of the sick.
4. The large number of deaths from heart disease have alarmed the public, and magnified the importance of every means for diagnosing diseases of this organ, and intensified the necessity for every man who practices medicine to understand the different modes of examining the pulse, and how to apply the information derived therefrom in determining the condition of the great central organ of the circulation.
5. The conditions that affect the pulse and the nervous manifestations through which the pulse is modified are not thoroughly well known, and the same pulse may be the result of different causes.
6. The pulse as a symptomatic phenomenon, can only be valuable as a means in diagnosing different pathological conditions and abnormal manifestations, by determining the cause that produces the different modifications in the character thereof. A weak, quick pulse, from *stenosis* of the left *ostium venosum* cannot be accepted as a symptom of scurvy, or the numerous diseases where this same pulse is to be met. Nor can a small hard pulse resulting from *stenosis* of the *aortic ostium* be taken as an evidence of the different inflammatory conditions, remote from the heart that produces the same kind of a

pulse. This makes a better acquaintance with sphygmology necessary.

7. The sphygmograph which only gives the tracings of the pulse, and the sense of touch in the finger of the examiner are not sufficient as reliable aids in examining the pulse so as to elicit all the facts that other instrumental aids and appliances can bring out, as has been demonstrated by certain mechanical contrivances devised under the direction of the writer, and which have by him been experimented with sufficiently to warrant the conclusion here stated. The writer feels justified in making the assertion that the sense of touch is no more accurate in arriving at the tension, the fulness, size, equality, or regularity of the pulse, than in arriving at the temperature by the same sense. The sphygmograph gives the tracings, but a most delicate instrument and careful experiments are necessary to bring this out so as to give a correct condition of the different phenomena that actually occurs during the different manifestations of the heart's force, as modified by the force exerted, the resistance to overcome, and the conditions of the channels through which the blood current is propelled.

We offer these reasons from an honest conviction of their importance to our profession. In proof of the reasons we here offer, we shall, at a future time, offer some arguments and some experiments, unless some one who is making the subject a study will present such facts as will supersede the necessity of any facts or opinions the writer has at his command.

This is one of the inquiries that must engage the best thoughts of the members of the profession, to enable us to come before the tribunal of public sentiment with such evidence as the age demands.

J. W. HERVEY, A.M., M.D.

Indianapolis, Ind., Jan. 31, 1889.

Treatment of Pseudo-Membranous Laryngitis or Croup.

Dear Sir:—Some time in 1887 my attention was called to the fact that some pepsins (notably the vegetable product styled "papayotin" by Parke, Davis & Co., and "papoid" by Johnson & Johnson), will digest diphtheritic membranes; it will digest those that are true false-membranes and not infiltrations of the mucous membrane. Acting on this hint I have applied the same treatment to membranes within the larynx, by making a solution (3j to f3j water) and using it *very frequently* as a spray by means of the hand-ball apparatus. Where the child resists, as is common, I sometimes use an oval speculum. Of course this does not supersede other treatment. I have not had an opportunity to use this often enough to generalize, but I have succeeded in saving every case of croup I have treated since commencing to use it; and I verily believe that,

where it is used thoroughly and effectively, it will cure almost every case in which the membrane is confined to the upper part of the larynx. I have published a detailed account of a case or two, but the account had no widely known name behind it, and I do not think the plan has attracted the attention it deserves. Should this treatment commend itself to our judgment are we not in a position to obtain a trial of it in a sufficient number of cases to prove its efficacy? It certainly can be no detriment; it precludes no other treatment, nor the resort to tracheotomy or intubation—operations seldom done outside of the large cities. I have never been able to get the consent of the parents to tracheotomy but once, and then only at the last minute. And even if we could always perform tracheotomy when indicated, it would be much more pleasant for all concerned to be able to save the patient without it. Very truly yours,

O. B. ORMSBY, M.D.

Murphysboro, Ill.

MISCELLANY.

NEW YORK STATE MEDICAL SOCIETY.—The following officers were elected at the annual meeting of the Medical Society of the State of New York recently held in Albany: President, Dr. Daniel Lewis, of New York; Vice-President, Dr. Alfred Mercer, of Syracuse; Secretary, Dr. F. C. Curtis, of Albany; Treasurer, Dr. Charles H. Porter, of Albany.

MEDICAL VOLAPÜK.—Dr. Nicolas, a gentleman with evidently a strong faith in his cause, advocates, in the *Journal de Médecine de Paris*, the adoption of the international language for medical purposes. His sketch of Volapük is flattering to that tongue. The article is abolished and, better still, there are no genders. We agree with Dr. Nicolas that the presence of a declension is an obstacle to the diffusion of the language. As the cases are said to cover indefinite shades of expression, as in German, we doubt that such an arrangement would be tolerated outside Germany, German Switzerland, German Austria, and the "Pennsylvania Dutch" speaking population of the United States. The lexicology of Volapük is especially important to medical writers who believe in the establishment of that language. The cutting down of consonants and vowels would play havoc with roots of Græco-Latin words, so abundant in medicine and so generally understood as to answer most of the objects of a universal language. Terminal syllables modify the sense of roots. After the roots have been learnt, however, the modifications must not only be learnt, but understood. Thus "eye" is *log* in Volapük. *El* being a "professional termination," *logel* means "oculist." The adjectival termination *ik* makes *logik*, "from whence 'logamikel,' optician." Why "from whence?" How can *el* added to a simple root be universally understood to imply a professional man, and the same *el*, added to the adjectival modification of the root, be safely made to convey the idea of a tradesman? A Volapük paragraph on "Professional Etiquette," a fine familiar subject for the beginner, would be very interesting to study. Dr. Nicolas cannot see his way to forming from *log* words to express "ophthalmia," "cataract," or "blepharitis." We cannot help him. The building up of roots taking in tow a string of modifying terminals could alone settle the question on Volapük principles, and this arrangement would

lead to endless confusion in medical literature. The literal translation of any word would be no guarantee of its true sense, just as *Beispiel*, the German for "example," has been rendered "by-play" by ignorant, yet too philological, Britons. The use of prepositions, or of verbs which more or less obviate their use, would lead to inextricable confusion whenever a Frenchman attempted to explain a clinical history or pathological report to an Englishman or German. For precision is absolutely imperative in such reports. To ask for a pint bottle of claret or the way to the post-office can often be done by means of nouns, infinitives, and pantomimic action. Volapük might prove of real use, under similar circumstances, in Russia, Portugal, or Hungary. But for medical literature and for learned society oratory, the new language would be, we believe, impracticable. The bulk of the profession in the British Empire and the States read few or no foreign works. On the other hand, there are plenty of doctors who make capital translations of French and German medical writings. Far easier and infinitely more profitable would it be for any medical man to learn the tongues of Voltaire and Goethe than to attempt to get up an artificial dialect, devoid of precedents, prestige, or poetry, and to learn how to express "eye," "oculist," "visual," "optician," and "ophthalmia" by a root and terminals in such a manner that a foreign Volapük scholar may, by chance, understand him.—*British Medical Journal*.

ABNORMAL CHILDREN.—Dr. Shuttleworth recently made a tour in Norway for the purpose of visiting institutions for imbecile children in the vicinity of Bergen and Christiania. He found the buildings well adapted for their purpose, the schoolrooms admirably equipped, and the provision of the teachers liberal, twelve pupils being the maximum number in any one class; carpentry, tailoring, and shoemaking are included in the industrial course of training. At Christiania, Dr. Shuttleworth inspected the classes for "abnormal children" who, from nervous or mental defect or peculiarity, could not keep pace with the curriculum prescribed for ordinary scholars in the public elementary schools. The question of the care and management of imbeciles and "abnormal children" is being investigated by a Royal Commission presided over by Lord Egerton, of Tatton, and a committee of the British Medical Association, is conducting an inquiry as to the number of abnormal children in primary schools in England and Scotland, so that full information will soon be placed before us. The new County Councils will, we presume, have to make provision for such cases, and any information as to the modes of management in other countries is most opportune at the present time. It appears probable that many defective children can be taken care of and educated under due supervision, without being removed from their homes to large and expensive asylums.—*British Medical Journal*.

THE EIGHTH CONGRESS FOR INTERNAL MEDICINE will be held at Wiesbaden on April 15-18, 1889, under the Presidency of Professor von Liebermeister. The following subjects will be discussed: "Ileus and its Treatment;" Referees, Curschmann and Leichtenstern. The "Nature and Treatment of Gout;" Referees, Ebstein and Pfeiffer. Professor Immermann will read a paper on "The Function of the Stomach in Tuberculous Phthisis," Professor Peterson one on "The Hippocratic Methods of Treatment," Professor Fürbringer on "Impotentia Virilis," and Professor Lewin on the "Preparation and Action of Medicines." Dr. Emil Pfeiffer, of Wiesbaden, is Secretary of the Congress.

PAMPHLETS RECEIVED.

Newman, Robert, M.D., New York. *A Defense of Electrolisis in Urethral Stricture, with Documentary Evidence*. Reprint from the Medical Register, January 5, 1889.

Wilson, L. D., M.D., Wheeling, W. Va. *A Case of Nephro-Lithotomy; Recovery*. Reprint from the Medical News, December 22, 1888.

Knapp, Philip Coombs, A.M., M.D., Boston, Mass. *Some Post-Hemiplegic Disturbances of Motion in Children*. Reprint from the Boston Medical and Surgical Journal, November 22, 1888.

Brown, Charles W., Elmira, N. Y. *Railway Injuries*. Reprint from the New York Medical Journal, December 22, 1888.

Coe, H. C., M.D., M.R.C.S., New York. *The Immediate Application of Forceps to the After-Coming Head in Cases of Version with Partial Dilatation of the Cervix*. Reprint from the Medical Record, January 19, 1889.

Proceedings of the Twelfth Convention of the Empire State Association of Deaf-Mutes, held in Rochester, N. Y., August 29-30, 1888.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 2, 1889, to February 8, 1889.

By direction of the President, Lieut.-Col. Joseph C. Baily, Asst. Medical Purveyor, and Major Charles L. Heizmann, Surgeon, are detailed as members of the Army Retiring Board at San Antonio, Tex., convened by War Department order dated January 16, 1888, published in S. O. 12, Jan'y 16, 1888, from Hdqrs. of the Army, vice Lieut.-Col. Edward F. Vollum and Major Francis L. Town, hereby relieved. Par. 15, S. O. 28, A. G. O., Washington, February 2, 1889.

By direction of the Secretary of War, Col. Jedediah H. Baxter, Chief Medical Purveyor, will proceed to New York City on public business connected with the Medical Department, and on completion thereof return to his station in this city. Par. 17, S. O. 30, A. G. O., Washington, February 3, 1889.

By direction of the President, in pursuance of the authority contained in the provisions of the Act of Congress approved March 3, 1857, "making appropriations for sundry civil expenses of the Government," etc., relating to the methods of preventing the spread of epidemic diseases, Major George M. Sternberg, Surgeon U. S. Army, will proceed to the Island of Cuba for the purpose named in the letter of the President addressed to the Secretary of War April 17, 1888, and upon completion of this duty will return to his proper station and submit his report to the President. Par. 16, S. O. 30, A. G. O., Washington, February 5, 1889.

By direction of the Secretary of War, Major George M. Sternberg, Surgeon, is relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., to enable him to comply with the requirements of paragraph 16, S. O. 30, of the 5th inst. Par. 4, S. O. 31, A. G. O., Washington, February 6, 1888.

Capt. Louis A. La Garde, Asst. Surgeon, leave of absence granted in S. O. 290, December 13, 1888, from this office, is extended three months, by direction of the Secretary of War. Par. 2, S. O. 31, A. G. O., Washington, February 6, 1889.

Capt. Edgar A. Hearn, Asst. Surgeon, Ft. Snelling, Minn., will proceed without delay to Ft. Pembina, Dak., and report to commanding officer of that post for temporary duty. Par. 3, S. O. 12, Hdqrs. Dept. of Dak., St. Paul, Minn., January 31, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending February 9, 1889.

P. A. Surgeon J. H. Hall, ordered to Naval Hospital, Washington, D. C.

Surgeon H. C. Eckstein, detached from U. S. S. "Adams" and wait orders.

Surgeon W. S. Dixon, detached from special duty at Baltimore, Md., and to the U. S. S. "Boston."

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No. 8.

ORIGINAL ARTICLES.

A CASE OF REFLEX VALGUS.

Read before the American Orthopedic Association, at Washington, September, 1888.

BY GEORGE W. RYAN, M.D.,

SURGEON TO THE ORTHOPEDIC CLINIC OF THE MEDICAL COLLEGE OF OHIO, CINCINNATI.

Early in May of the present year I saw a robust lad of ten years, who was brought to me for advice concerning a deformity of his foot. He wore an apparatus which had been applied by an instrument-maker, but there had been no improvement in his condition, the father stated. The foot was in marked valgus as he walked, though there was little if any lameness. The history of the case was that some months before he had sprained the ankle, but it was not thought to be of much consequence, and with domestic treatment passed off in a few days. It was some weeks after this injury when it was noticed that, in walking, the foot was thrown in marked eversion. He complained of no pain and was, in fact, unaware of the changed position of his foot until his attention was called to it. He was fond of play, and his activity was in no way diminished by the position which his foot assumed. The condition was believed to be "a habit," to use the father's words, and his pride was stimulated in various ways in an endeavor to have him overcome it. It was of no avail, however, and the family physician was consulted. The patient was turned over to an instrument-maker, who constructed a simple apparatus of two steel uprights and an instep strap attached to an ordinary leather shoe. This had been worn for two or three months when I saw the boy. There was no appreciable improvement from its use.

I made no inquiries concerning the family history, though the father was a man of highly neurotic temperament.

The examination of the foot showed a marked valgus with a slight prominence of the scaphoid, the arch being as well marked as on the other foot. There was no swelling of the joint, no tenderness—in fact, nothing abnormal but the position. He had complete motion in every direction but inversion, and in this lacked but a few degrees of perfect. When the foot was brought to the

straight line the prominence of the scaphoid was not apparent. I was careful to notice this, as the father informed me that the physician who had previously seen the case was inclined to think that a slight displacement of that bone was the cause of the trouble.

There was a little atrophy of the calf—so little that it could have been but physiological. There was no contraction about the hip or knee, nor was there any tenderness. I examined the spine carefully for a trace of tenderness, but found it sound in all respects. I did not use any electrical test for the muscles of the leg.

The case impressed me at the time as a pure valgus, due possibly to a traumatism. The absence of pain and tenderness, and also of marked atrophy, certainly excluded any bone lesion. The boy did not seem to be of a neurotic type, having no resemblance to his father; and further, he looked upon any treatment as a burthen which would interfere with his accustomed out-door enjoyment. He was a sturdy, outspoken boy, and was irritable only on the subject of the apparatus, with which he found all manner of fault.

I recommended the cold douche and massage for the leg, and measured him for an appliance which consisted of a highly arched steel plate to which the foot was bound by straps of webbing, a shaft extending up the inner side of the leg, with a free joint at the ankle; the shaft or spring to be thrown out from 10° to 15° from the straight line. This was applied about a week later, and its immediate effect was perfect. He walked with the foot in the straight position. He was ordered to wear it day and night.

I did not see him for ten days or more, when he came to my office. It was reported that the foot was not doing so well and that he was beginning to turn it out as before. It was admitted that the apparatus had not been worn constantly, as the boy complained of it at night. He certainly did not walk as when he was last seen, but not so badly as reported. As the foot was released from the appliance it seemed to immediately settle into a more extreme eversion than I had before found. There was no excoriation, hardly a redness of the skin. On taking hold of the foot, I found the peronei group of muscles firmly contracted; the contraction coming on as the foot was touched.

The spasm was of the tonic type and relaxed only after several seconds of gentle traction, and was marked also when an attempt was made to apply the sole plate to the foot, and intensified as pressure was made by the straps to draw the foot to the straight line. This was a new development; at least, I was very much inclined to believe so, as I had examined him very carefully at the first visit and had detected nothing of this. The father knew nothing of it and I believe the boy was unconscious of it, for I tested him in various ways, by attracting his attention to other matters which would interest him thoroughly, and while so interested, if the foot were touched the contraction again came on. There had been no pain, there was no swelling or tenderness, and he was as active as usual, walking without lameness. This symptom seemed to be brought on by the use of the shoe and to be purely reflex. I believed that it might be overcome in a few days by the constant use of the appliance, and so advised, though I then thought that probably the case might have been a reflex—"hysterical," if you choose—one from the beginning. At any rate, I concluded to try the support for a short time. The promise was readily given that this course would be followed, though I had some doubt of it. I have not seen the boy since. The father came to see me just as I was about to leave the city in July. He said that the boy was no better, turned his foot out as much as before, and that peroneal spasm was the same. I told him to let me see the boy on my return and I would then dress the foot in plaster of Paris after the method used by Lorentz, of Vienna, in the treatment of ordinary flat foot.

Reviewing the case now I am of the belief that it was a neurosis, but if I was asked why so, I would be unable, perhaps, to say more than that I could think of nothing else, and also that the spasm of the peronei group did not imply anything more than a neurosis. As I have attempted to show in the preceding notes, there was nothing else which led me to this conclusion. I am unable to say positively that the condition was of reflex origin. There was nothing in the boy's temperament, his habits or surroundings, or in his manner, to point towards anything bordering on the hysterical. It was certainly not a spinal arthropathy.

The neuroses of joints must have, I think, a peculiar fascination for every orthopedic surgeon, for the reason, perhaps, that their solution is generally a difficult matter. In the ordinary diseases of joints we generally see them at second hand, where no special skill is necessary to make a diagnosis—it proclaims itself. I have found more difficulty in diagnosing obscure ankle troubles than in any other joint, the hip or the knee being far more easily managed. I can recall several cases which I have seen in the past few years,

most of them in consultation, where I insisted on further examination before giving an opinion, the symptoms about the ankle were so conflicting and obscure. In the hip or knee we are often able to determine at once the presence of the neurotic element. In the spinal arthropathies of children this is easily found, and its removal a question of but a few days.

The management of these neuroses of the ankle, it appears to me, presents unusual difficulties. If there be any genital irritation, of course that is easily disposed of, but when no spinal arthropathy or genital irritation exists there is very little that we can do in young children but to give general directions concerning exercise. Many of these conditions pass off without treatment as easily as they come. Tenotomy is often done for some of these neuroses, but it will be questionable as to whether any permanent benefit can be obtained from it. I am inclined to think that, when there is such marked spasm of a single group, the fixed dressing would be more serviceable than anything else.

114 West Ninth St.

MERCURIC BI-CHLORIDE IN DIPHTHERIA.

BY JNO. S. COLEMAN, M.D.,
OF AUGUSTA, GA.

For my views in regard to the use of mercury in diphtheria I am indebted to the publication in Squibb's *Ephemeris* of a letter from the late Dr. Reiter, of Pittsburgh, Pa. Prior to 1883 I had successfully tracheotomized two cases of laryngeal diphtheria, but only to see both patients die. The first survived the operation three days, but the second only two hours—death ensuing from a collapse of the membrane below the opening in the trachea.

On April 26, 1883, I was called to visit J. C. C., æt. 6, one of a family of seven as fine, healthy children as I have ever known. He had decided fever with diffused redness of the whole fauces. Next morning dirty-yellow looking patches were to be seen upon either tonsil. On the 29th, at 9 A.M., this exudation had developed into a thick yellowish-white substance presenting the appearance of a fried egg. The next day he died of laryngeal stenosis. My associate in the case pronounced it to be the most malignant he had ever seen. Each day the children were fully examined; three of them had the ordinary exudative sore throat.

On the evening of May 6 a robust little girl of three years was found to have fever with intense redness of the throat.

May 7, A.M. A slight exudation was apparent; Temp. 101° F.; P.M., Temp. 102° F.

May 8, 9 A.M. She has passed a restless

night. Temp. 103.4° . Whole fauces covered with a thick dense deposit. 4 P.M. The membrane is apparently thicker than at morning observation. Temp. 103.8° F. So far as I could determine her condition was now as hopeless as was her brother's twenty-four hours before his death. With the boy I was anxious to use corrosive sublimate, but was dissuaded from so doing by two of the oldest and most distinguished of my confrères.

Convinced that the girl, too, must succumb, I determined to test the virtue of mercury. At 5 P.M., forty-eight hours after the onset of the disease, I began the use of hourly doses, one-eighth grain each, of corrosive sublimate. After the sixth dose her skin became moist and her temperature was reduced to 100° F. The interval between the doses was lengthened to two hours.

May 9, 9 A.M. Patient had slept well, excepting when aroused to take the medicine. During the night her bowels were moved three times; the actions, though small, presented the chopped-spinach like appearance so characteristic of the full effect of this remedy. To Dr. Reiter, this result was the index either for lengthening the interval between, or for diminishing the size of the doses. Her skin was moist and temperature normal. 4 P.M. I found the child bright and playful; large pieces of thick, typical membrane have been ejected in the "gagging" efforts produced by the medicine. The tonsils were now covered by a thin yellow film. 10 P.M. The patient was apparently so much better that the interval between the doses was increased to three hours.

May 10, 9 A.M. Patient had passed a restless night; two movements from bowels. The membrane had re-formed. Temperature normal. The hourly doses were resumed, and continued for sixteen hours, when an exfoliation of the membrane again took place. The interval between the doses was again increased to two, four, and finally six hours.

The further progress of the case was without incident. During the nine days of medication 84 doses were given, amounting to ten and a half grains.

In spite of the condemnation of this use of bichloride mercury by an eminent American authority, I have persevered with mercuric bichloride in diphtheria. Whilst it has been my good fortune not to see many cases, those I have seen have been safely conducted back to health. The terribly fatal nature of this malady forces me to crave the patience yet awhile of my professional brethren. Therefore, I shall give in detail the conduct of two other cases to a successful issue. To my mind tracheotomy and its recent substitute, intubation, are but temporary makeshifts, and in the large majority of cases futile. The disease being a blood-poison, our efforts must be directed to its destruction in and elimination from that fluid.

Late in the afternoon of December 11, 1888, I was called to see Ivey, æt. 6, the daughter of T. C. H. She had been sick for one week, but had not had medical attention. Her cough was shrill and raucous, with almost complete aphonia. A blistered surface upon the front aspect of her neck nearly two inches square was covered by a greyish dirty-looking pellicle. There was a slight rise in her temperature and a pulse-rate of 130. There was neither redness nor exudation to be seen in the fauces. I prescribed $\frac{1}{2}$ grain of corrosive sublimate, to be given each hour, two teaspoonfuls of whisky every four hours, and all the milk that she could be induced to take.

December 12, 9 A.M. No material change. The dose of corrosive sublimate was increased to $\frac{1}{16}$ grain.

December 13. The patient was less hoarse, and her expectoration free.

December 15 the interval between the doses was increased to two hours.

December 17 there was so marked a change for the better in her condition that her mother was instructed to give the medicine once in four hours, and on the 20th the original dose of gr. $\frac{1}{2}$ was resumed and administered night and morning for several days, and then entirely withdrawn. Convalescence from this time was uninterrupted.

On December 17 my attention was called to Nellie, sister of Ivey, aged 16 months. She had a decidedly husky voice, some increase of temperature, and a pulse-rate of 120. She, like her sister, had neither redness nor exudation in the fauces. I directed that she should be given hourly gr. $\frac{1}{32}$ of corrosive sublimate; every two hours a teaspoonful of whiskey, and milk *ad lib.*

December 18 the child was bright, but her hoarseness had increased; complete aphonia. The mercury was increased in the evening to $\frac{1}{16}$ grain hourly.

December 19, A.M. The constitutional symptoms were ominous, circulation bad, respiration rapid and labored. Still no implication of the fauces. P.M. She was seen, with me, by an esteemed medical friend who, after a careful examination, said: "This child will die."

December 20. I found no material change, but by evening her respiration was still more hurried, pulse quickened and skin hot. The thermometer was not used because of her irritability. One-eighth of a grain of corrosive sublimate was now directed to be given hourly. This dose was continued for seventy-two consecutive hours; *nine grains in three days*. Notwithstanding this enormous amount of the drug the bowels were scarcely sufficiently moved. Nausea and occasional vomiting were necessary results. Such resistance to the usual effects of this remedy can be accounted for only upon the theory that *diphtheria induces a tolerance for mercury*. The same

dose was continued for several days, but at longer intervals. At my visit on the morning of the 26th a devoted woman who had assisted in nursing the children handed me a piece of dried membrane about $2\frac{1}{2}$ inches in length, the upper portion seemingly about two-thirds the circumference of the trachea of a child of that age. She stated that it, with about as much more, had been ejected after a violent fit of coughing and in which she thought the child would certainly die.



False membrane ejected on tenth day by Nellie Hunter, aged 16 months, December 26, 1888, after seventy-two consecutive hourly doses of one-eighth grain each of mercuric bi-chloride. Recovery complete.

After putting the specimen in alcohol I showed it to a physician, who thought he could see six impressions of tracheal rings. In the upper and broader portion three rings are beautifully and distinctly outlined. The membrane is of the thickness of heavy blotting paper. The hoarseness was materially benefited by a saline vapor from a large kettle upon the grate. By this means the atmosphere of the room was subsequently kept moist. The mercury was continued in $\frac{1}{2}$ grain doses morning and evening for several days and then withdrawn. The convalescence from this time was uninterrupted.

It may be well to state that after the ejection of the membrane by Nelly both children were given, because of cardiac indications, three-drop doses of tincture of digitalis every six hours.

January 24, 1889. Both children have made good recoveries.

THE Chief of Police of Berlin has ordered the hospital authorities to note the numbers of the carriages in which patients are taken to the hospitals, and the nature of the diseases of the patients. When the patients are suffering from infectious or contagious diseases the carriages are to be disinfected.

RECURRENT FATTY CYST OF THE ORBIT.

GROWING FROM THE EXTERNAL SHEATH OF THE OPTIC NERVE.
REMOVED MAY, 1878, AND AGAIN, JANUARY, 1888.

BY J. H. BUCKNER, M.D.,
OF CINCINNATI, OHIO.

J. O., a young girl, *æt.* 10 years, was brought to my office in the early part of May, 1878. A soft elastic tumor projected from the external canthus of her left eye, overlapping and pressing the globe inwards and upwards. The pupil was almost entirely covered by the upper lid on account of the displacement, and her vision in that organ was consequently reduced to a bare perception of large objects. Vision of R. E. normal.

The growth of the tumor had been exceedingly slow, making but little progress for two or three years from the time it was first noticed by her, until a few months prior to her visit to my office, when it began to enlarge more rapidly. Her relatives belonged to the laboring class, and could not give a definite history as to the time of its first appearance; and, as its growth had been so slow after it emerged from the orbit, it had probably started during early infancy, if it was not congenital.



As will be observed by the photographs, herewith submitted, Jessica was a well developed child for her age. The second photograph was taken about two months subsequent to the removal of the tumor, and shows that the displaced eyeball had regained its normal position.

Operation.—About the middle of May, 1878, (my notes do not give the exact date) assisted by Drs. C. S. Muscroft, Jr. and L. McLean Slough, my little patient was anesthetized with chloroform, and I proceeded in the following manner to remove the tumor. The conjunctiva was slit

vertically over the swelling, and, with probe-pointed scissors, separated from the external portion of the growth, the cyst wall was quite thin and was snipped at one or two points, but, owing to the semi-solid character of the contents, but little was evacuated. I then proceeded to separate the cyst from the globe and surrounding cellular tissue with the handle of a scalpel, and, with the probe-pointed scissors going deep into the orbit. My assistant rotated the ball inwards, until, following the cyst wall, I could feel, with my little finger, the optic nerve, the wall of the cyst partly enveloping it, and being, apparently, a continuation of the external sheath of the nerve. With great care I divided the cyst wall with my scissors as closely as possible to the nerve.



The contents of the deeper portion of the cyst were much softer than the external part, and escaped when the cyst was divided; it was lardaceous in appearance and consistency. The orbital cavity was thoroughly cleansed by syringing with clear, cold water; *no antiseptics being used*. The edges of the mucous membrane were united with three or four interrupted silk sutures, and a compress wet with cold water, applied over the closed eyelids. The cold water dressing was continued for twenty-four hours, there was but little inflammatory reaction, and the wound healed by first intention.

The sac and its contents were sent for examination, to Dr. L. R. Longworth, who was at that time, about eight months prior to his death, an ardent student of pathology and microscopy. He pronounced the contents of the cyst to be chiefly fat and epithelial scales.¹

The vision of Jessica, two months subsequent to the operation, was normal. After the second photograph was obtained, I did not see her until she came to my office in January, 1888. I found the left eye squinting inwards about four lines. Upon raising the upper lids a soft swelling was

discovered, occupying the superior and external angle of the orbit. L. E. V.— $\frac{2}{3}$ °, R. E. V.— $\frac{2}{3}$ °. She had first noticed the return of the tumor during the summer of 1887. There was but little exophthalmos, however, the stiffness and immobility of the eye, and the comparatively rapid growth of the tumor, made her anxious to have it removed.

She was admitted to the Eye Ward of St. Mary's Hospital on January 21, and on the 25th of the same month, assisted by Dr. Bertling, who administered the chloroform, I proceeded to dissect the cyst from the globe and surrounding cellular tissue: the cyst enveloped the ball for fully half of its circumference. She behaved badly under chloroform, and the thin cyst wall was clipped at several points, allowing its fluid contents (which were of the consistency and color of thick cream) to flow off. This also made the dissection difficult and tedious.

Deep in the orbit, the cyst was so closely adherent to the surrounding adipose tissue that much of the latter was also removed. The most thorough antiseptic precautions were taken in this operation; the instruments and sponges being cleansed with a solution of bichloride of mercury, 1 to 5,000; and after the removal of all the cystic membrane I could find, the cavity was cleansed with the same antiseptic wash. The conjunctiva was united with two or three silk sutures, and a compress wet with the sublimate solution applied over the closed lids.

The operation was followed by intense inflammation of the cellular tissue of the orbit, of the conjunctiva and of the eyelids. Upon the third and fourth day the swelling of all the tissues surrounding the ball was so great as to prevent the possibility of inspecting the cornea, which I fully expected would slough as the result of the surrounding pressure.

On the second day ice compresses were tried, but finding the application of heat to give greater relief, the hot water dressing was substituted, and continued until the subsidence of the swelling. Four-grain solutions of cocaine and atropine were frequently instilled into the conjunctival sac, and the inflamed tissues were irrigated with the antiseptic wash as hot as it could be borne, every two hours.

There was but little discharge throughout, and on the sixth day the inflammation began to subside by resolution. The only damage to the cornea was a small ulcer near the centre, which soon healed. The ocular conjunctiva, externally and inferiorly, still remains red and thickened. The outward movement of the eye is yet limited, due, probably, to the stretching and weakening of the external rectus. The squint is reduced by measurement to one and a half lines, but she now has diplopia, which did not exist previous to the operation. Her vision remains the same, viz. $\frac{2}{3}$ °

¹ This case was reported to the Cincinnati Academy of Medicine during the winter following the operation, but, after a careful search of the *Lancet* and *Clinic* of that period, I do not find that it was ever published.

for the left, and $\frac{20}{20}$ for the right eye, with D. 1 Sph. V. L. E. $\frac{20}{20}$. The diplopia is overcome by a prism of 10° , and will, no doubt, be relieved when the exudation, resulting from the inflammation of the orbital cellular tissue, has been absorbed, and the external rectus has regained its normal strength by exercise and contraction. Otherwise the advancement of the external, and tenotomy of the internal rectus may be necessary.

The cyst removed in this case was of the class termed dermoid, the etiology of which is, in a great measure, a matter of speculation. The tendency to recur is a subject of more importance to us. The four cases reported by Dr. Fox, an epitome of which was published in the *Archives of Ophthalmology*, Vol. XIV, do not furnish the requisite data, on account of the shortness of time since the operation, to judge of the efficacy of his method of treatment with nitrate of silver. The same may be said of Thompson's case, treated by electrolysis. I doubt if either method, unless the entire cystic membrane could be reached by the caustic, or cautery, would certainly prevent a recurrence of the tumor. It would, evidently, have been hazardous to vision to have penetrated the orbit to the proximity of the optic nerve, with either of the mentioned caustics, which would have been requisite to success in the case I have just reported.

The analysis of the seventy-three cases, collected and reported by Berlin, quoted by Cornwall as an addendum to the report of his case, published in Vol. XI of the *Archives*, shows the important fact that orbital tumors of this class occur more frequently under 20 years of age, and that a large proportion of them are congenital. If we adopt the invagination theory we must regard all dermoid cysts as having the germ of development at birth.

I regard, as one of the most valuable points for oculists in connection with orbital cystic tumors, to be reliable data from which to estimate the frequency of recurrence under the different methods of treatment. This would be a fruitful field for the investigation of some of the ambitious and younger members of our specialty.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

SECOND PAPER.—EPIDEMICS.

Pneumonic fever sometimes prevails as an epidemic, and, when wide-spread and very fatal, it naturally attracts the attention of the medical historian. Accounts of such outbreaks come to us from very remote times, although there must always remain a doubt whether the great epidemics of which we read were really pneumonic in their nature.¹

Thus the Plague of Athens, which, after devastating Æthiopia and the Mediterranean countries, destroyed more than one-fourth of the inhabitants of the Grecian metropolis,² has been considered a form of this disease,³ although the wonderfully graphic account of the epidemic left us by Thucydides⁴—himself a sufferer from the malady and one of the few attacked who recovered—scarcely warrants the conclusion.

The victims were generally attacked "suddenly, while in full health, and without ostensible cause. First they were seized with violent flushings about the head, and redness and turgescence of the eyes; within, the fauces and the tongue became all at once blood-red, and the breath unnatural and fœtid. After this came on sneezing and hoarseness; and in a short time the suffering extended down into the chest, with violent cough; and when it settled on the heart it disturbed its action, and produced bilious discharges of all kinds known to medical language, accompanied by great distress. In most cases a dry hiccough came on, causing violent spasms, which sometimes ceased soon, and in other cases lasted a long time. The surface of the body was neither very hot to the touch nor pallid, but rather red, livid, and covered with an eruption of small blisters and sores; while the internal heat was so great, that the patients could not bear upon them the thinnest garment or the finest linen, or to lie in any other way than naked, and had a longing to throw themselves into cold water. Nay, many who were not carefully watched actually did so, into the tanks, urged by an insatiable thirst; and it made no difference what they drank, much or little. They suffered severely from a distressing restlessness and want of sleep throughout. Yet the whole time the disease was at its height, the body was not sensibly emaciated, but held out against all this suffering in a way beyond belief; so that most died about the seventh or ninth day, of inward fever, still retaining considerable strength. Or, if they survived this crisis, when the disease passed into the abdomen, severe ulceration supervening, with profuse diarrhœa, the majority died of this last from sheer exhaustion."

The author goes on to give the sequellæ of the malady, the refusal of birds of prey to touch the unburied dead, the uselessness of preventive and curative treatment, and to state that persons once attacked were proof against subsequent infection.

This strange epidemic was probably an eruptive fever, *sui generis*, with pulmonary symptoms resembling those of pneumonic fever.⁵

¹ Heiss, Inaug. Diss., München, 1857, S. 20, says that the disease is *never* epidemic, but in this he is clearly in error.

² Smith, History of Greece, N. Y., 1855, p. 289.

³ Sturges, Nat. Hist. Pneumonia, London, 1876, p. 4; Loomis, Pepper's Syst. Med., Phila., 1885, Vol. iii, p. 307.

⁴ Opera, Lib. ii, cap. xlix-li, Collins' Ed., N. Y., 1883, p. 49.

⁵ For further information regarding the nature of this terrible epidemic the reader is referred to Pliny, Nat. Hist., Lib. vii, cap. 50; Aristotle, De Mirabilibus, Sec. i; Lucretius, De Rerum Natura, Lib. vi, ll. 1234 et H. 1241; Hippocrates, Aphor. Lib. iv, aph. 55, et De

The Black Death of the middle of the fourteenth century, which swept away one-third⁶ of the inhabitants of every land which it visited,⁷ has also been considered a form of pneumonic fever.⁸

Beginning in the north of Asia, it spread from one end of Europe to the other and sensibly depopulated every State through which it passed.¹⁰

The marked phenomena of the malady were ardent fever, cough, sanguineous expectoration, fetid breath, epistaxis, diarrhœa and petechiæ. The disease was considered so contagious that to be near those affected was to invite certain death, "so that parents abandoned their infected children and all the ties of kindred were dissolved."¹¹

TABLE I.—CHRONOLOGY OF EPIDEMICS.

YEAR.	SEASON.	COUNTRY.	DISTRIBUTION
1449		Italy ¹²	Padua, Venice and other
1521		Italy ¹⁴	Venice [places] ¹³
1535	Spring.	Italy ¹⁵	Venice
1537		Italy ¹⁶	Brescia, Lombardy
1550		Switzerland ¹⁷	Graubünden
1557	Winter.	Europe ¹⁸	France ¹⁹ , Belgim ²⁰ , Netherlands ²¹ and Genoa ²²
1563		Italy ²³	Italy, widely distribut'd
1563	Winter	Netherlands ²⁴	Involving entire country
1564	Spring.	Switzerland ²⁵	Antwerp and other places
		and Germany	Widely distrib'd in Switzerland, Württemberg, ²⁶ & Lower Rhine reg'n ²⁷
1568	Spring.	Italy ²⁸	Mountainous parts of the
1571	Spring.	France ²⁹	Paris [North
1574	Spring.	France	Paris and other places ³⁰
1576	Spring.	Germany ³¹	Lower Rhine region
1583	Spring.	Germany ³²	Western parts ³³
1585	Spring.	Bavaria ³⁴	Ingolstadt & other places
1586	Spring.	Italy ³⁵	Basano and vicinity
1598		France ³⁶	Paris
1602	Winter, Spring & Summer	Italy ³⁷	Perona, ³⁸ Imola, ³⁹ Urbino, ⁴⁰ and many other places ⁴¹
1613	Winter	Italy ⁴²	Gualda
1624	Spring	Germany	Augsburg ⁴³
1633	Spring	Italy ⁴⁴	Forlì and entire Romagna ⁴⁵
1652		Switzerland	Glarus ⁴⁶
1655	Spring	Switzerland	Geneva and vicinity ⁴⁷
1659	Spring	Germany ⁴⁸	Breisgau & Philippsb ⁴⁹
1664-5	Winter and spring	Switzerland ⁵⁰	Very widely distributed
1696	Spring	Italy	Ferrara ⁵¹
1708	Spring	France	Paris ⁵²
1709	Winter and spring	Europe ⁵³	Widely distributed throughout Northern Italy, ⁵⁴ Western Switzerland ⁵⁵ and S. Eastern France ⁵⁶
1713	Summer	Italy	Faetto, ⁵⁷ Turin
1714	Winter and spring	France	Paris ⁵⁸
1716	Spring	France	Paris ⁵⁹
1719		United States	Hartford, ⁶⁰ Conn.
1719	Spring	Switzerland	Buchs ⁶¹

Morb. Vulgar. Lib. ii. Aretæus. Acut. Morb. Lib. ii. cap. iii. Ed. Kühn, S. 38; Galen. Com. Aph. Hippocrati, Ed. Kühn, p. 410. Sprengel, Geschichte d. Medicin; Littré, Œuvres de Hippocrate, T. i, p. 122; Meade, Med. Works, Lond., 1762, p. 230; and others.

⁶ Hecker, Der Schwarze Tod in 14 Jahrh. Berlin 1832, says one-fourth, and Meade, op. cit., p. 244, makes it one-half.

⁷ Hume, Hist. England, N. Y., 1854, Vol. ii, p. 237.

⁸ Probably erroneously.

⁹ Sturges, op. cit. p. 4; Loomis, op. cit., p. 307; Satterthwaite, Phila Med. News, Jan. 5, 1889, p. 1.

¹⁰ See, for further information, Stow, Survey of London, 1633, p. 117; Barnes, History of Edward III, Cambridge, 1688, p. 137; Guy de Chauliac, Tract. ii, cap. v, p. 113; Villani, Ist. di Matteo, Lib. i, cap. 2; Ludolf, Hist. Æthiop. Lib. i, cap. 13; Mezeray, Hist. de France, T. i, p. 798; Maitland, Hist. London, 1772, Vol. i, p. 128, and Vol. ii, p. 1022; Northouck, Hist. London, 1773, p. 70; and many others.

¹¹ Ozanam, Hist. Méd. des Mal. Epidém., Paris, 1817-23, T. iv, p. 76; Copland, Med. Dic., N. Y., 1855, Vol. ii, p. 381, and Vol. iii, p. 219; Hecker, De Const. Epidem., ex Mut. Corpor. Humani, Erfurth, 1791; Sturges, op. cit. p. 4; Hirsch, Histor. Geog. Path., Erlangen, 1860-64, Bd. i, S. 195; Guy de Chauliac, op. cit.; Parker, Brit. Antiq., p. 360; Jürgensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v, S. 30.

TABLE I—Continued.

YEAR.	SEASON.	COUNTRY.	DISTRIBUTION.
1720	Spring	Hungary ⁶²	Rome ⁶³
1720	Spring	Italy	Turin ⁶⁴
1721	Spring	Italy	Paris ⁶⁵
1728	Spring	France	Paris ⁶⁶
1730	Spring	Minorica ⁶⁷	Widely distributed
1730	Spring	Italy	Padua ⁶⁸
1731	Winter	France	Paris ⁶⁹
1734	Spring	Germany	Frankfort-on-the-Main
1734	Fall and winter.	Spain	Verga ⁷⁰
1735-6	Fall and winter.	Spain	Asturia ⁷¹
1736	Winter	Scotland	Fife ⁷²
1737-8		France	Rouen ⁷³
1738		Italy	Padua ⁷⁴
1739	Spring	France	Pavilly, Normandy, and vicinity ⁷⁵
1740-45	Winter and spring	England.	Plymouth ⁷⁶ and South of England
1745	Spring	France	Aigues-Mortes ⁷⁷
1745-46	Winter and spring	Minorica ⁷⁸	Widely distributed
1748	Spring	France	Languedoc ⁷⁹
1749	Winter	United States	Long Island ⁸⁰
1751	Winter and spring	France	Nérac, ⁸¹ Calais ⁸² & vicinity
1751	Winter	Italy	Forlì ⁸³
1753		France	Montpellier ⁸⁴
1754	Spring	France	Paris ⁸⁵
1754	Winter	Italy	Padua ⁸⁶
1754-55	Winter and spring	Switzerland	Basel ⁸⁷
1755		Spain	Lisbon ⁸⁸ and other parts
1755	Winter and spring	France	Artois ⁸⁹ and vicinity
1755	Winter and spring	France	Bourbon-Lancy ⁹⁰
1755	Winter and spring	France	Belle-Isle-in-the-Sea ⁹¹
1756	Spr. and autumn.	France	Amale ⁹² and vicinity
1756		Flanders ⁹³	Widely spread
1757	Spring	France	Paris ⁹⁴ and vicinity
1757	Spring	Spain	Valenciennes ⁹⁵
1757	Spring	France	St. Jean d'Angely ⁹⁶
1757		Austria	Vienna ⁹⁷
1757	Spring	France	Toulon ⁹⁸ and vicinity
1757	Winter	Switzerland	Canton Bern ⁹⁹
1757	Winter	France	Capitan ¹⁰⁰ , Languedoc
1757	Winter	France	Lambese, ¹⁰¹ Provence
1758	Spring	France	Martignac ¹⁰²
1758	Spring	France	Lille ¹⁰³
1758	Spring	France	Valenci ¹⁰⁴
1758	Spring	France	Angono ¹⁰⁵
1758	Winter and spring	France	Tarascou, ¹⁰⁶ Provence
1758	Autumn	France	Vicinity of Lille ¹⁰⁷
1759	Spring and fall	Switzerland	Basel ¹⁰⁸
1760-61	Winter	United States	Connecticut ¹⁰⁹ , widespread
1761		Italy	Brescia ¹¹⁰
1761	Winter	Italy	Ponte Longo, ¹¹¹ near Padua
1762	Winter	Switzerland ¹¹²	Bern and Wallis
1762		England.	Chester ¹¹³ and other places ¹¹⁴
1764-65	Winter	Switzerland	Lausanne, ¹¹⁵ Waadt, Bern
			Solothurn & many other places ¹¹⁶
1764-65	Winter and spring	France	Castle Sarrazin ¹¹⁷
1765	Winter and spring	Germany	Clausthal ¹¹⁸
1765-66	Winter and spring	Switzerland	Waadt ¹¹⁹
1767	Winter and spring	Germany	Eisenach ¹²⁰
1767	Spring	France	Vivara ¹²¹ , Provence,
			Languedoc, ¹²² & other parts of the South ¹²³
1767		Italy.	Tanova Val, Piedmont ¹²⁴
1767	Spring	Switzerland.	Canton Zurich ¹²⁵
1768	Spring	France	Languedoc, ¹²⁶ lower part
1770	Spring	Germany	Hamel ¹²⁷ and vicinity
1771-72	Winter	France	Verdun ¹²⁸ and vicinity
1772	Spring	France	Eplechin ¹²⁹
1773	Spring	France	Rouen, ¹³⁰ Castle Jaloux etc., ¹³¹
1773		Austria	Vienna ¹³²
1775	Winter and spring	Italy.	St. Miniato ¹³³
1776	Winter	France	Dieppe, ¹³⁴ Eplechin, ¹³⁵ Bernay ¹³⁶
1779	Spring	Denmark	Copenhagen harbor ¹³⁷
1779	Spring	France	Laugon ¹³⁸
1780	Spring	Italy	Livorno ¹³⁹
1780-81	Winter	Italy.	Como, ¹⁴⁰ Florence ¹⁴¹
1782-3-4	Winter	France	Widely extended ¹⁴²
1783	Winter	Switzerland	Bern, ¹⁴³ Waadt ¹⁴⁴ and other places
1785	Winter and spring	France	Ansauville ¹⁴⁵
1786	Spring	France	Vitry-le-François ¹⁴⁶
1787	Winter	Italy.	Padua ¹⁴⁷
1788	Winter	France	Nayon and vicinity ¹⁴⁸
1788-89	Spring and autumn of both years	France	Poitiers ¹⁴⁹
1791	Autumn	United States	New England States ¹⁵⁰
1792		United States	Southern States ¹⁵¹
1793-94	Winter	Italy	Pavia ¹⁵²
1795		Italy	Lombardy ¹⁵³
1795-96	Winter and spring	Italy	Turin and throughout Piedmont ¹⁵⁴

TABLE I—Continued.

YEAR.	SEASON.	COUNTRY.	DISTRIBUTION.
1800	Winter and spring	United States	Greenville, N. C. ¹⁵³
1801		France	Joigny ¹⁵⁴
1802-3	Winter and spring	Germany	Stollberg, ¹⁵⁵ Freiburg ¹⁵⁶ and other places
1803		Austria	Baden, ¹⁵⁷ near Vienna
1803	Winter and spring	Germany	Frankenstein ¹⁵⁸
1805	Winter	England	London ¹⁵⁹
1805-6	Winter	France	Tonneins ¹⁶⁰
1806	Spring	France	Canton Monthois ¹⁶¹
1806	Winter	France	Widespread in south of France ¹⁶²
1806	Winter	Switzerland	Uri, Luzerne, Glarus, Unterwald ¹⁶³
1806-16		N. America	Very widely distributed ¹⁶⁴
1807	Winter	France	Dept. Var, ¹⁶⁵ Besançon ¹⁶⁶
1807		United States	Connecticut ¹⁶⁷
1808		Germany	Oldenburg ¹⁶⁸
1808		France	Clairvaux and vicinity ¹⁶⁹
1809	Winter and spring	United States	South Carolina ¹⁷⁰
1809	Winter and spring	United States	Georgia, ¹⁷¹ N. Carolina ¹⁷²
1809		France	Joigny ¹⁷³
1810-11	Spring and winter	Holland	Holstein ¹⁷⁴
1811		France	Bresançon and vicinity ¹⁷⁵
1811	Winter	United States	Vermont ¹⁷⁶
1812	Summer	Germany	Lucka ¹⁷⁷
1812		Denmark	Very widely distributed
1812		France	Tonnerre ¹⁷⁸
1812		France	Savoy ¹⁷⁹
1812	Spring	United States	L. Island, ¹⁸⁰ Dutchess ¹⁸¹ and Westchester ¹⁸² counties, N. Y.
1812	Fall and winter	United States	N. England ¹⁸³ army posts
1812-13	Winter	United States	Maine ¹⁸⁴ and all New England ¹⁸⁵
1812-15	Winter	United States	Region of Great Lakes ¹⁸⁶
1812-14	Winter	United States	N. York ¹⁸⁷ various parts
1812-16	Winter	United States	Tennessee ¹⁸⁸
1813	Winter	United States	Newcastle, ¹⁸⁹ Delaware
1813	Winter	United States	Albany, ¹⁹⁰ N. Y.
1813	Spring	United States	New Orleans, ¹⁹¹ La.
1814-15	Winter	United States	Virginia, ¹⁹² Kentucky ¹⁹³
1815-16		United States	Georgia ¹⁹⁴
1816	Winter and spring	United States	Ohio, ¹⁹⁵ Massachusetts ¹⁹⁶
1816	Spring	Italy	Auney, ¹⁹⁷ Savoy
1817-19	Spring	France	Mayenne ¹⁹⁸
1818	Spring	Switzerland	Bern and Obwalden ¹⁹⁹
1818-20	Spring	United States	Virginia, ²⁰⁰ widely distributed
1822	Winter	United States	Georgia and Carolinas ²⁰¹
1824	Spring	Sweden	Stockholm ²⁰²
1826	Summer	Sweden	Dannemore ²⁰³
1826	Winter	United States	Maryland, Hartford Co., ²⁰⁴
1826-27	Winter	France	Trayes ²⁰⁵
1827-28	Winter	France	Mericoourt ²⁰⁶
1828	Autumn	Italy	Pozzuoli ²⁰⁷
1829	Winter	Italy	Veltlin, ²⁰⁸ Capitanata ²⁰⁹
1831	Winter	United States	Sommerville, ²¹⁰ Tenn.
1831-32	Winter	France	Vicinity of Effig ²¹¹ and the Rhine
1832-33	Winter	Switzerland	Uri, ²¹² Wallis, ²¹³ Tessin
1832	Winter	France	Canton d' Aubin, ²¹⁴ Aveyron
1832	Winter	Ireland	Dublin ²¹⁵
1833		France	Paris ²¹⁶
1834	Winter	Switzerland	Aarau ²¹⁷
1835-36	Winter and spring	Germany	Markthiedenfeld, ²¹⁸ Homburg
1837		France	Paris, ²¹⁹ and Noyers ²²⁰
1837		United States	New England ²²¹
1839	Winter	Germany	Halle ²²²
1840	Spring	Switzerland	Höngg ²²³
1840		France	Nantes ²²⁴
1841-43	Fall and winter	France	Paris ²²⁵ Marsillagues ²²⁶
1843		United States	Indiana and Kentucky ²²⁷
1844	Winter	Switzerland	Richterschwiel ²²⁸
1845		United States	Port Republic, Va. ²²⁹
1845		France	Southeastern portion
1847		France	Paris, ²³⁰ Versailles ²³¹
1847		Norway	Christiana ²³²
1847		France	Paris ²³³
1847-49	Winter	Germany	Sommerfeld ²³⁴
1850-51	Winter	United States	Charleston, ²³⁵ S. C.
1851-52	Winter	Alaska	Widely distributed ²³⁶
1853		England	London ²³⁷
1854-55	Winter	Ireland	Eastern portion
1856	Winter and spring	England	Leicestershire ²³⁸
1857-58	Winter and spring	United States	Caswell Co., ²³⁹ N. C.
1860		United States	Beaver Valley, ²⁴⁰ Pa.
1863		Iceland	Widely distributed ²⁴¹
1863		Malta	Ships St. Jean d'Acre and Cressy
1869		Norway	Christiana ²⁴²
1877		N. Brunswick	Soldiers
1876		Alaska	Kodiak ²⁴³
1878		Fiji Islands ²⁴⁴	

TABLE I—Continued.

YEAR.	REASON.	COUNTRY.	DISTRIBUTION.
1878		United States	Windham, ²⁴⁵ Maine
1876	Spring	United States	Boston ²⁴⁶
1878		Germany	Moringen ²⁴⁷
1879	Winter	United States	Boston ²⁴⁸
1879		Norway	Loberg ²⁴⁹
1879	Spring	United States	Minster and Loramies, Ohio ²⁵⁰
1880		India	Dera Gazi Kahn ²⁵¹
1880		France	Marseilles ²⁵²
1880	Spring	Germany	Ober Sichte ²⁵³
1880	Spring	United States	Auglaize Co., Ohio ²⁵⁴
1881	Spring	Alaska ²⁵⁵	All along the coast
1881	Spring	Germany	Rietnordhausen ²⁵⁶
1881	Spring	Germany	Becherbach ²⁵⁷
1881		Germany	Lustnau ²⁵⁸
1882		Italy	Tregagno ²⁵⁹
1882		Germany	Erbenheim ²⁶⁰
1882	Spring	Germany	Amberg Prison ²⁶¹
1884	Winter	England	Newcastle-on-Tyne ²⁶²
1884		United States	South Berwick, Me. ²⁶³
1885		England	Dingwall ²⁶⁴
1885		Russia	St. Petersburg ²⁶⁵
1885		United States	Suffield, ²⁶⁶ Conn.
1885		United States	Maine, ²⁶⁷ various places
1886		Canada	Toronto ²⁶⁸
1886		Ireland	Belfast ²⁶⁹
1887		England	Wylam ²⁷⁰ and Dingwall ²⁷¹
1887		United States	Muskingum Valley, O. ²⁷²
1888	Winter	United States	Kingsbridge, N. Y. ²⁷³

¹⁵³ Savonarola, Practica, Tract. vi, cap. x, rub. 13, Venet. 1497.

¹⁵⁴ The disease was apparently contagious.

¹⁵⁵ Montanus, Rhasis Enarrat, Basil, 1562.

¹⁵⁶ Massa, Febr. Pestil., etc., Venet., 1556; Forzio, quoted by Renzi, Storia della med. in Italia, Neapoli, 1845, iii, p. 551.

¹⁵⁷ Mundella, Epist. Med., Basil, 1538, Ep. 16.

¹⁵⁸ Guggenbühl, Der Alpenstich, etc., Zurich, 1838.

¹⁵⁹ The symptoms of this epidemic were violent cough, dyspnea, bloody expectoration on the third day and death in about a week.

¹⁶⁰ Sturges, Nat. Hist. Pneumonia, London, 1876, p. 5.

¹⁶¹ Dodonæus, Med. Obsv., Colon, 1581, p. 62.

¹⁶² Paschetti, De destillatione, etc., Venet., 1615.

¹⁶³ Coiter, Ober. in Bonet. Sepulchret, iii, p. 191.

¹⁶⁴ Dodonæus, op. cit., ad. ann., 1557.

¹⁶⁵ Dunus, Epist. Med., Figuri, 1502; Gessner, Epist. Med., Figuri, 1577; Guggenbühl, op. cit., Meyer-Ahrens, Schweiz. Zeitschr. f. Med., 1845, S. 52.

¹⁶⁶ Schorndorf, quoted by Gessner, op. cit.

¹⁶⁷ Wier, Obsv., Lib. i, Amstelod., 1660, p. 910.

¹⁶⁸ Cardanus, Paralipomen, Lib. vii, cap. 8.

¹⁶⁹ Baillon, Epidem., Lib. i, Genèv., 1762.

¹⁷⁰ Hirsch, Hist. Geog. Path., Erlangen, 1862, Bd. ii, S. 40.

¹⁷¹ Wier, op. cit., p. 913.

¹⁷² Lebenwaldt, Hauss-Arzenb., Nürnberg, 1695, S. 20.

¹⁷³ Malady considered contagious.

¹⁷⁴ Oethaus, Quoted by Schenck, Obsv. Frankf., 1665, p. 777.

¹⁷⁵ Prosper Alpinus, De Præsentia Vita, Lugd., 1733, p. 51.

¹⁷⁶ Fontanus, Med. Prac., Lib. ii, cap. 3.

¹⁷⁷ Chiochi, Comment. Feb. Moris, etc., Venet., 1664.

¹⁷⁸ Codronchi, De Morb. qui Imole vagati sunt, etc., Bon., 1603.

¹⁷⁹ Colle, Cosmior Med. Lib. iii; Fonte, Consult. Med., Frankf., 1609, p. 20; Chomel, Pneumonie, Leipzig, 1841, S. 244.

¹⁸⁰ Pericarditis was a common complication, the pericardial sac being found full of fetid fluid.

¹⁸¹ Tosius, De anthrac tract., etc., Venet., 1618.

¹⁸² Hochstätter, Rar. Obsv. Med., Frankf., 1674, p. 89.

¹⁸³ Baronius, De Pleuropneumonia, Lib. ii, Farnobivii, 1638.

¹⁸⁴ The disease was complicated by angina and was considered contagious. See Chomel, op. cit., S. 245.

¹⁸⁵ Guggenbühl, op. cit., S. 14.

¹⁸⁶ Hirsch, op. cit., S. 32; Guggenbühl, op. cit., S. 15.

¹⁸⁷ Vorster, Exper. de Pleuropneumonia, Epidem., Basil, 1689; Brunner, De Pleuropneumonia Epidem., Heidelb., 1689; Ozanam, Hist. Med. des Mal. Epidem., Paris, 1817-23, T. iv; Chomel, op. cit., S. 245; Sturges, op. cit., p. 6.

¹⁸⁸ The characteristics of the epidemic were pain in the side, oppression, cough, delirium, convulsions and colliquative diarrhoea. The disease was very fatal and was considered contagious. On post-mortem section the lungs were found acutely inflamed, solidified, purulent and gangrenous. The pleura and pericardium were filled with bloody serum and there were "polypi" in the right chambers of the heart. From this last circumstance and the great fatality of the malady, it was called "pleuropneumonia maligna polyposa."

¹⁸⁹ This is the earliest reference to heart-clot with which I am acquainted. That this should have been one of the peculiarities of the epidemic is remarkable, but it is by no means unique, for the fact has been noticed in other outbreaks. See Manlius, Lancet, N. Y., 1883, vol. i, p. 479.

¹⁹⁰ Guggenbühl, op. cit., S. 15.

¹⁹¹ Lanzoni, Opp., Lausann., 1738, ii, p. 449; Simon, Epidem. 170 Siècle, Paris, 1859.

¹⁹² Jour de Méd., T. xviii, p. 177.

¹⁹³ The disease was very fatal and was considered contagious. Jaundice was a prominent symptom. At the beginning the cases

were sthenic, but as the epidemic progressed asthenic symptoms prevailed. See Sturges, op. cit., p. 6.

- 32 Guidet, Abh. d. gallig. Fieber, Heidelb., 1790, S. 64.
- 33 Christian, Eph. Med. Phys., Cent. Vet. vi, App. 109.
- 34 Deidier, Consult. et Obsv. Méd., Paris, 1754, T. ii.
- 35 Guidet, op. cit., S. 76.
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- 37 Ibid., p. 270.
- 38 Webster, Epidem. Dis., Hartford, 1799, Vol. i, p. 228.
- 39 Breslauer Samml., März, 1719, S. 297.
- 40 Fischer, Breslauer Samml., Aug. 1720, S. 169.
- 41 Gagliardi, Relaz. di mali di petto, Rom., 1720, Sturges, op. cit., page 6.

42 Richa, Const. Epid., Turin, ann. 1721, Bianchi, Hist. Hepatica, Genev., 1725, Lib. i, p. 759; Sydenham, Opera, Genev., 1736, Lib. ii, p. 439.

- 43 Jour. de Méd., T. xx, p. 450.
- 44 Font, quoted by Cleghorn, Ep. Krankh. Minorica, Gotha, 1776.
- 45 Penada, Obsv. Med. Prac., Palau, 1792.
- 46 Jour. de Méd., T. xxi, p. 68.
- 47 Bergen, Com. Lit., 1734.
- 48 Villaba, Epid. Española, Madrid, 1802, ii, p. 104.
- 49 Villaba, Epid. Española, Madrid, 1802, ii, p. 104.
- 50 Edinb. Med. Inq. and Obs., Vol. v, p. 35.
- 51 Le Cat, Phil. Trans., Vol. xlix, p. 49.
- 52 Morgagni, De Caus et Sed. Morb., Lib. ii, ep. xxi, sec. 20-27.
- 53 Lepeccq, Med. Topog. de Normandie, Stendal, 1794, S. 137-218.
- 54 Huxham, Epidem. Dis., Lond., 1748, Vol. ii, p. 59. In this epidemic the onset of the attack was marked by shivering, followed by fever, oppression, distressing cough, acute and lancinating pains in the chest and headache. The pulse was quick and hard; the breath hot and offensive; the expectoration thin, yellow or sanguineous, offensive and often so acrid as to cause soreness of the pharynx. Faint and uncertain perspirations appeared upon the face and head. Colligative sweating and petechia were harbingers of death. Huxham, the learned historian of the epidemic, described the disease under the name of *febris pneumonica*, and considered the local affection the subordinate part of the malady.

55 Sauvages, Nosol. Meth. Cass. iii, Pleuritic, S. 16.

56 Cleghorn, Epid. Dis. Minorica, Lond., 1762, p. 261. This author has left us a very graphic description of this epidemic. The attack "commonly began like an ague fit, with shivering and shaking, flying pains all over the body, bilious vomiting and purging, which were soon succeeded by quick breathing, inordinate thirst, inward heat, headache and other feverish symptoms. In a few hours the respiration became more difficult and laborious, the most part of the sick being seized with stitches in the sides. In a few instances the complaints preceded the fever; in others they did not come on till the day after. Many were drowsy and inclinable to sleep, but they raved at intervals, or were much disturbed by extravagant dreams. In the meantime the internal heat was in several very moderate; in some less than natural; but for the most part it was so intense as to raise the thermometer to the 102d degree; and often in the afternoon to the 104th. The pulse was likewise very variable, not only in different persons, but in the same at different times. In some cases it was like that of a man in health, or even slower than natural, while the patient was in the greatest danger, so that it could neither be depended upon as a prognostic sign, nor as an indication of cure. Besides some abatement of the fever, which commonly happened every morning, it was remarkable that upon the third day, or beginning of the fourth, there was frequently a great remission, sometimes a total cessation of every violent symptom, so that the sick were thought to be out of danger; but on the fourth or fifth day a delirium suddenly came on, or the breathing became more difficult than ever, and one or both of these symptoms increasing hourly, the patient expired in a day or two, either suffocated or raving mad, unless nature or art assisting, he had the good fortune to escape by some critical evacuation."

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- 58 Bard, Am. Med. and Phil. Reg., Vol. i, p. 409.
- 59 Raulin, Obsv. de Méd., Paris, 1754, p. 206.
- 60 Darluc, Jour. de Méd. de Paris, T. vii, p. 61.
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- 64 Morgagni, op. cit., Lib. i, Epist. vii, Sec. 12.
- 65 Zwinger, Acta Helvet., Lib. iii, p. 303.
- 66 Haller, Op. Path. Obsv., Obsv. 70.
- 67 Jour. de Méd., T. iii, p. 117.
- 68 Pinot, Jour. de Méd., T. iii, p. 122.
- 69 Rochard, Jour. de Méd., T. iv, p. 129.
- 70 Marteau, Jour. de Méd., T. vi, p. 455.

- 71 Sturges, op. cit., p. 7.
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- 73 Deplaigne, Jour. de Méd., T. vii, p. 108.
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- 76 Berthone, Jour. de Méd., T. vii, p. 295.
- 77 Guggenbühl, op. cit., S. 15.
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- 80 Soumeireu, Jour. de Méd., T. ix, p. 158.
- 81 Boucher, Ibid., p. 95.
- 82 Gignoux, Jour. de Méd., T. xii, p. 62.
- 83 Gignoux, Ibid., p. 62.
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- 87 Webster, op. cit., p. 218.
- 88 Roncalli, quoted by Hirsch, op. cit., S. 12.
- 89 Ozanam, op. cit., T. ii, p. 172; Galetti, Adv. Med.

- 90 Haller, Abh. ü. Faulfieber, Solothurn, 1786.
- 91 Sturges, op. cit., p. 9.
- 92 The epidemic which began in Lisbon in 1753 and gradually spread, during the next few years, throughout Western Europe, was marked by jaundice, a sense of constriction around the waist, gangrenous sore throat and purulent lungs. As it extended into Germany vomiting, diarrhoea, headache and sopor became prominent symptoms. Haller, op. cit. Convalescence was often delayed by an eruption of abscesses, especially in the region of the clavicle. Chomel, op. cit., S. 249.

- 93 Tissot, Epidem. in Lausanne, Zürich, 1767, S. 83.
- 94 Guggenbühl, op. cit., S. 16; D'Apples, Acta Helvet., Lib. vi, p. 213.
- 95 Tissot, Zimmermann's Bjd. Schriften, Leipzig, 1784, Bd. vi, S. 497.
- 96 Sauvages, op. cit., Sec. 2.
- 97 Leuth, Obsv. Med. Cellis, 1779, Fascis. 11, 1.
- 98 Tissot, Epidem. in Lausanne, Zürich, 1767.
- 99 Grunni, Epidem. zu Eisenach, Heidelb., 1778.
- 100 Menuret, Hautersierck's Rec. d'Obsv. de Méd., T. ii, p. 231.
- 101 Helminthiasis was a marked feature of this epidemic. Sturges, op. cit.
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- 119 Porta, Sagg. di Obsv., etc., Pavia, p. 36.
- 120 Race di Opuse, Med. Prat., Firenze, 1781, V, 100.
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146 The great American epidemic of the early part of the present century began at Medfield, Massachusetts, in 1806, from whence it spread, "gradually extending itself, winter after winter throughout New England into Canada," the Middle and the Southern States, "progressing from village to village, and from one portion of the country to another," until it exhausted itself in 1816. See Mann Med. Sketches Dedham, 1816; Dickson, Path. and Therap., Vol. i, p. 435; Williamson, op. cit.; Condie, Watson's Prac. Phys., Phila., 1845, p. 612; Gallup, Epidemics of Vermont, Boston, 1815; Lee, Copeland's Med. Dic., N. Y., 1855, Vol. ii, p. 887, et al. The epidemic was so widespread and fatal that during five months of 1815, 6,400 died out of a New England population of 218,000. Lee, op. cit.

In this epidemic the prodromal stage was often greatly prolonged, the actual development of the disease being preceded by a considerable period of languor, lassitude, numbness and pains in the limbs, chilliness, etc. As the case progressed the symptoms assumed a pulmonary form, with oppression of the chest, pain in the side, cough, bloody and dark expectoration, etc. The pulse was weak and frequent; the temperature often low; the tongue moist and furred at first, but soon becoming dry and dark; there were severe pains in the head and stomach, with delirium and diarrhoea was very frequent. In those who recovered convalescence was prolonged.

For further references see local epidemics in these years.

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it attacks equally the opulent and the indigent, the temperate and
intemperate, but proves much more fatal to the poor and intemperate,
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95 Boston Med. and Surg. Jour., Jan. 23, 1879, p. 151, and Feb. 30,
p. 174. "Very fatal, typhoid symptoms, little or no cough."
96 Am. Jour. Med. Sci., Jan., 1883, p. 262.

We see from the preceding table²⁷ that epidemics of pneumonic fever have appeared in all parts of the world, although the elevated regions²⁷ of northern Italy, south-eastern France and Switzerland have been their favorite haunts.

TABLE II—SHOWING DISTRIBUTION OF EPIDEMICS.

COUNTRY.	NO.	COUNTRY.	NO.	COUNTRY.	NO.
France	67	Ireland	3	North America . . .	1
Italy	34	Denmark	2	Iceland	1
United States . . .	33	Sweden	2	Malta	1
Germany	24	Alaska	2	New Brunswick . .	1
Switzerland	18	Austria	3	Fiji Islands	1
England	10	Minorica	2	India	1
Spain	4	Europe	2	Russia	1
Netherlands	3	Hungary	1	Canada	1
Norway	3	Scotland	1		
				Total	222

Winter and spring have furnished²⁷ the great majority of epidemics, although they have occasionally appeared in autumn and, rarely, in summer.

One of the curiosities of epidemic pneumonic fever is that it sometimes singles out certain classes of the population for its victims. Thus, the epi-

²⁸In the spring of 1879 cases of pneumonic fever were very frequent in this vicinity. In one house I observed five cases, the patients being consecutively attacked within ten days. All were very ill and one died. The residence was upon a hill-side, facing east and sloping to a river a few hundred feet distant. The drainage and hygienic surroundings were unexceptionable. In another family six persons five were attacked, all recovering. This residence was also in a good hygienic condition.

²⁹Costello, Lancet, N. Y., 1881, Vol. i, p. 319.
³⁰Gibbs, U. S. Naval Rpts., 1881, p. 410.
³¹Münchh., Deutsche Arch. f. Klin. Med., 1882, No. 11; Holwede, Arch. f. Kinderheilk., Bd. ii, Heft 1 und 2.
³²Author. A great number of cases, confined to circumscribed localities.

³³Rosse, op. cit., p. 17.
³⁴Penkert, Berliner Klin. Wochenschr., No. 40-41, Bd. xviii.
³⁵Von Butry, Deutsche Arch. f. Klin. Med., Bd. xxix, p. 193.
³⁶Caton, Lancet, 1884, Vol. ii, p. 135.
³⁷Massalongo, Lo Sperimentale, 1885; Cincinnati Lancet and Clinic, Nov. 3, 1883, p. 398; Deutsche Med. Zeitung, No. 41, 1885. The village of Tregagno contains about 2600 inhabitants, and is situated in a narrow windy valley, but the people were strong and healthy and had suffered from no previous epidemic disease. One hundred were attacked with a mortality of 30 per cent. Males succumbed in greater proportion than females, although attacked equally. At the beginning children were principally attacked, but as the epidemic advanced the middle aged, and, finally, elder persons were also stricken. When the disease entered a house the victims were successively attacked. There were usually prodromata, and the symptoms were typhoidal from the first. In some cases the disease was not localized until several days had elapsed, and in others it could not be discovered during life. The apices of both lungs were generally affected. The liver and spleen were congested and enlarged. The urine was increased in quantity and albuminous. The duration was from seven to nine days. Micro-organisms, supposed to be the cause of the disease were found when sought for.

³⁸Senff, Berliner Klin. Wochenschr., 1883, No. 28.
³⁹Kerschensteiner, Bair. ärztl. Intell. Bl., Bd. xxviii, No. 20; American Journal Medical Sciences, January, 1883, p. 262; Emmerich, Sanitary News, Nov. 12, 1887. In this prison epidemics persistently recurred and Friedländer's pneumococcus in enormous numbers were found in the dumping material from the infected rooms. Splenic enlargement was a marked feature of the cases.

⁴⁰Armstrong, Lancet, 1884, Vol. i, p. 127.
⁴¹Sleeper, Rpt. Me. Bd. Health, 1888, p. 242.
⁴²Bruce, Brit. Med. Jour., 1886.
⁴³Triwus Vratich, 1885.
⁴⁴Mason Rpt. Conn. Bd. Health, 1885, p. 338.
⁴⁵Smith, Rpt. Me. Bd. Health, 1888, p. 257; Sewall, *Ibid.* p. 202; *Ibid.*, p. 131.
⁴⁶Geike, Trans. Int. Med. Cong., Washington, 1887; N. Y. Med. Rec., Sept. 30, 1887, p. 264.
⁴⁷Lancet, 1887, Vol. ii, p. 1149.
⁴⁸Fonlis, Brit. Med. Jour., 1887.
⁴⁹Adams, *Ibid.* 1887.
⁵⁰Bell, Kansas City Med. Index, 1887.
⁵¹Darlington, N. Y. Med. Rec., Dec. 8, 1888.
No attempt has been made to render this table complete.
⁵²See Lombard Climat de Montagnes, p. 79.

demic of Ober-Sichte was remarkable in that the malady was confined to children. From March 20 to April 2, fifteen children, ranging in age from 1 to 5 years, out of a population of 50 children, were attacked with pneumonic fever. For a long time previously and subsequently there were no cases of the disease in the vicinity.²⁰⁰

The Alaska epidemic of 1881 was confined almost exclusively to the native population. At Unalaska the only sufferer, not a native, was from the island of Mauritius. The same peculiarity was noted at St. Paul's, Unza, Kodiak, Cook's Inlet, Prince William's Sound and other villages.²⁰¹

A vast and imposing array of alleged causes for these outbreaks have been enumerated by authors, but the majority of these will not withstand the test of honest criticism. They have been attributed to geological, meteorological and social conditions; to peculiarities of residence, soil and drinking-water, food, habits of living, states of the air and of vegetable and animal life; and, finally and always to those omnibuses of indolence and ignorance, "epidemic influences," "infection" and "filth."

In the Rietnordhausen epidemic the following conditions prevailed: The village, of 700 inhabitants, is located upon a hillside in a high and mountainous country. The first cases were school-children, and as the disease spread it attacked principally the families to which the school-children belonged. In all forty-two were attacked, with two deaths—the disease being very mild. Adjoining the school was a cemetery, located upon filled ground, and in which the soil-water stood above the height of the buried dead.²⁰²

In 1863 epidemic pneumonic fever broke out on board H. M. ships *St. Jean d'Acre* and *Cressy* of the Mediterranean fleet. Of 815 persons on board the former 410 were attacked, and of 720 on board the latter 298 were affected. The disease was considered contagious, and seemed to be communicated to the other inmates of the Malta Hospital by patients sent there from the ships.²⁰³

Referring to the Alaska epidemic of 1881, Rosse²⁰⁴ says: "A singular coincidence connected with the outbreak being its appearance at

these places²⁰⁵ immediately or soon after the arrival of the first vessel in port. This circumstance so impressed itself upon the native mind as to give rise to a general and strong belief in the importation of the disease."

Epidemic influenza has been followed by a great prevalence of pneumonic fever, as in England in the seventeenth and eighteenth centuries, in France in the early years of the present century, and in New England in 1837.²⁰⁶

An intelligent review of all the facts which have, thus far, been presented, affords convincing proof that epidemics of pneumonic fever do not depend upon any of the causes which have been mentioned, although they may favor the operation of the exciting cause. There is, however, nothing mysterious or freakish about epidemic diseases; if they advance rapidly it is because the germ of the malady is abundantly nourished; if their progress is stayed it is because it no longer finds the food upon which it feeds; if the fatality is great the poison is virulent and energetic or the resistance of the victim is slight; and if the outbreak is mild it is because the balance of power lies upon the side of those attacked.

There can be no doubt as to pneumonic fever—epidemic as well as sporadic—everywhere and always being due to the action of a single peculiar and specific morbid material, which, in the case of epidemics, is fed up to a point of intense virulence and may act upon a population less able than usual to withstand its onslaughts.

Many epidemics have impressed upon them peculiarities which serve to distinguish them from all others. These variations may be seen in the character of the subjects attacked, the mode of invasion, progress and symptomatology, the complications and sequelæ, the fatality and morbid anatomy, etc.

In the Irish epidemic of 1854-55 the symptoms and signs of the first stage of the pneumonic inflammation were suddenly developed, continued for a short time only and subsided with singular rapidity. Stealthily, rapidly and unexpectedly was the disease developed, and equally as silently, quickly and mysteriously did it disappear—flitting like a shadow across the path and leaving as little indication of its presence.²⁰⁷

In the Morigen epidemic the principal characteristics were diarrhœa, pleuritic effusion, enlargement of the spleen, albuminuria and diffuse nephritis, pericarditis and fatty degeneration of the heart, meningitis and great prostration.²⁰⁸

In the epidemic of Deri Gazi Kahn, in which

²⁰⁰ For further information concerning epidemic pneumonic fever the reader is referred to Milliken, *Cincinnati Lancet and Clinic*, December 16, 1882, p. 578; Geike, *Trans. International Medical Congress*, Washington, 1887; Tennent, *Epidemics of Virginia*, Edinb., 1742; Bonillet, *Pleuripneumonies Epidemique*, 1750; Lebert, *Berliner Klin. Wochenschr.*, October 23, 1871; Moore, *N. Y. Med. Record*, September 10, 1887, p. 314; Gairdner, *Lancet*, 1887, vol. ii, p. 247; Griesinger, *Virchow's Handb. d. Spec. Path. u. Therap.* Bd. ii, S. 43; Hirsch, *Handb. d. Hist. u. Geog. Path.* Bd. ii, S. 26 et seq.; Gehel, *Jour. d. Prak. Heilk.* Bd. xvii, S. 54; Fox, *Reynolds' Syst. Med. Phila.*, 1880, vol. ii, p. 159; Sturges, *Nat. Hist. Pneumonia* London, 1826, p. 4; Juergensen, *Ziemssen's Handb. d. Spec. Path. u. Therap.* Bd. v, S. 30; Morgagni, *De Caus. et Sed. Morb.* Ep. xxx, art. 26; Rohé, *Jour. Am. Med. Assoc.* July 2, 1887, p. 3; Grisolle, *Traité de la Pneumonie*, 1841, p. 139; Laennec, *Diseases Chest*, N. Y., 1830, p. 228; Chomel, *Pneumonie*, p. 331; Swett, *Dis. Chest*, p. 80; Simon, *Traité der Epidem.* Paris, 1859; Auenbrugger, *Invent. Nov.*, etc. Vien., 1761.

²⁰¹ Münnich, *Deutsche Med. Wochenschr.*, November 11, 1882; Holwede, *Arch. f. Kinderheilk.* Bd. ii, Heft 1, November 2.

²⁰² Rosse, *Cruise of the Corwin*, Wash., 1883, p. 16.

²⁰³ Penkert, *Berliner Klin. Wochenschr.*, October 3 and 10, 1881.

²⁰⁴ Bryson, *Lancet*, N. Y., 1881, vol. i, p. 198.

²⁰⁵ *Cruise of the Corwin*, p. 16.

²⁰⁶ Unalaska, St. Paul, Unza, Kodiak, Cook's Inlet, Prince William's Sound and other coast villages.

²⁰⁷ See Sydenham, *op. cit.*; Huxham, *op. cit.*; Andral, *Clin. Med.*, Phila., 1843; Laennec, *op. cit.*; Bard, *Med. and Phil. Reg.*, vol. ii, p. 409; Copeland, *Med. Dic.*, N. Y., 1855, vol. ii, p. 888; Williamson, *op. cit.*; Hosack, *Med. and Phil. Reg.*, vol. iii, p. 448; Low, *Med. and Phil. Reg.*, vol. iv, p. 20; Lee, *Copeland's Med. Dic.*, vol. ii, p. 888.

²⁰⁸ Stokes, *Med. Times and Gaz.*, May 26, 1855.

²⁰⁹ Kühn, *Arch. f. Kinderheilk.* Bd. xxi, Heft. 4. See also *Lancet*, Aug. 24, 1878.

40 persons out of 550 lost their lives in a few weeks, the local morbid processes proceeded with the utmost rapidity through all the stages of inflammation to suppuration, abscess and gangrene. Both lungs were usually affected, and after death were found to be, to a great extent, completely disorganized. The pleuræ were generally implicated, being covered rather thickly with lymph and their cavities filled with a dirty sanguinolent fluid. The blood was dark and thin. From the first there was profound prostration, the teeth were covered with sordes and there were catching pains in both sides.²⁰⁰

In the Canton Aubin epidemic the disease was distinctly remittent in character. The local pulmonary affection appeared to be a part of a general disease, which would suddenly attack or vacate any organ of the body. Intermittent and remittent fevers prevailed in the locality.²⁰¹

Periodicity was also a marked feature of the Charleston epidemic of 1851-52.²⁰²

In the Alaska epidemic of 1881 the disease was marked by great dyspnoea, imperfect aëration of the blood, insomnia and profound physical and mental depression—indeed the latter was such that it seemed impossible to impart the least ray of hope to a patient who had made up his mind to die from the onset of the attack. The malady pursued a very rapid course and was extremely fatal.²⁰³

In the Rouen epidemic the lungs and stomach were often found gangrenous, the tongue dry and black, the face pale and the abdomen tympanitic. Almost all the patients had a very fœtid diarrhœa. A purple eruption covered the surface of the body. The disease was considered contagious.²⁰⁴

Purpura and helminthiasis were prominent symptoms of the Provence and Languedoc epidemics of 1767.²⁰⁵

Scurvy complicated the epidemic pneumonic fever which prevailed in Nantes in 1840. The disease was of a typhoid type, with extensive implication of the pleuræ.²⁰⁶

In the epidemic described by Bennett²⁰⁷ the disease was characterized by extensive pleuro-pulmonary inflammation, abundant effusion into the pleural sac, with but slight consolidation of the lung. The inflammation was sometimes confined to a single lobe, but oftener there was no well defined margin. The expectoration was darker, more sanguinolent and less tenacious than usual. Respiration was but little increased in frequency and dyspnoea was remarkable by its absence.

The mild epidemic which visited Boston, in

1876, was characterized by a slow, insidious invasion, a prolonged and typhoid course and frequent hæmorrhages.²⁰⁸

The symptoms offer an infinite variety. There may be prodromata, with an insidious and prolonged invasion, or it may appear in the ordinary manner, or the access may be remarkable for its suddenness and impetuosity.

There may be an initiatory chill of greater or less intensity and duration, although this is lacking in many epidemics. The temperature curve may follow a higher or lower plane than ordinarily, or it may be very irregular in its course. The pulse may beat with great force and rapidity, or it may be weak, or it may be even slower and of greater volume and force than in health. Respiration may be very rapid and difficult, or it may be easy, regular and natural. The breath may be unaltered or it may have a hot, foul or a peculiar nauseous sweetish odor. Pain and cough may be present or absent, and when present may show striking peculiarities. Expectoration—not always present—may be hæmorrhagic, muco-purulent, gelatinous, gangrenous or so acrid as to corrode the mucous surfaces with which it comes in contact. Diarrhœa is a rather frequent symptom, and it may be colliquative, dysenteric, gangrenous or fœtid. Helminthiasis may be a marked feature. The urine may be excessive, scanty, albuminous or hæmorrhagic. The tongue may be clean and moist, foul and coated, or dark and dry. Sordes are often present. The abdomen may be painful and tympanitic. The mind may be clear or profoundly affected, as with melancholia, apathy, delirium, sopor or coma. Convulsions are not uncommon. Jaundice has been often noticed.

In some outbreaks the type of the disease has been sthenic, and in others asthenic, or it has begun in one form and changed to the other. In some the local, and in others the general symptoms were most prominent. In some the local inflammation passed on with the utmost rapidity to the total destruction of tissue, and in others there has been a late localization of the disease or the pulmonary lesion was even unsuspected during life. In some the local affection was of the most transient nature, whilst in others it was very persistent. Sometimes the local disease was quite migratory and erratic in its course and at other times it and the general symptoms as well, was distinctly remittent or intermittent in its progress. Hæmorrhages and various eruptions have been frequently noted. Inflammatory and gangrenous angina, scurvy, abscesses, splenic enlargement, hepatic and nephritic changes, cardiac degeneration, endocarditis, pericarditis with hæmorrhagic or purulent effusion, pleuritis with similar effusions, inflammation and gangrene of the stomach and bowels, meningitis, mental aber-

²⁰⁰ Costello, *Lancet* N. Y., 1881, vol. 1, p. 319.

²⁰¹ Grifoulière, *Gaz. Méd.*, 1833, p. 475.

²⁰² See Charleston *Med. Jour.*, vol. v, p. 824.

²⁰³ Rosse, *op. cit.*

²⁰⁴ Lepeque de la Cloture, *Obsv. sur les Mal. et Const. Epidem.*, Paris, 1776.

²⁰⁵ Deidet, *Obsv. de Méd.*, T. 11; Sauvages, *op. cit.* Menuret, quoted by Chomel, *op. cit.* 8, 245.

²⁰⁶ Laveran, *Gaz. Hebdom.*, 1865, No. 35.

²⁰⁷ *Med. Times and Gazette*, Oct. 23, 1853.

²⁰⁸ Curtis, *Boston Med. and Surg. Jour.*, May 11, 1876, p. 356.

rations, etc., have all been frequent epiphenomena in various epidemics

The duration and prognosis will vary so much with the character of the epidemic that no trustworthy generalizations can be made. It can only be said that the malady may be so mild as to be almost insignificant, or it may be so virulent as to constitute a disease of the greatest fatality, rivaling, in this respect, any other.

The lesions found after death have also varied greatly in different epidemics. In some it is the pulmonary tissues which alone, or mainly, bear the brunt of the disease, whilst in others the bronchi or the pleuræ are principally affected, the inflammation of lung substance being of secondary importance. In some the local affection has proceeded with wonderful rapidity to complete consolidation, or even destruction whilst in others this was effected more slowly, and in yet others it never occurred—the morbid action not passing beyond the stage of engorgement and stasis, or, if perchance an attempt at exudation had been made, the inter-alveolar exudate was gelatinous and non-plastic. The limits of the local morbid process may be well defined and lobar, or it may be diffused and with no distinct line of demarcation. The pleura and pericardium are very often affected, with a tendency to early and extensive effusion, which is very likely to become purulent. The blood is sometimes dark, thin and non-coagulable and at others there is a peculiar tendency to the formation of heart clot.

Besides the strictly pulmonary lesions one may meet, as a part of the epidemic, the lesions peculiar to cerebral and spinal diseases, enteric and puerperal fevers, dysentery, erysipelas, rheumatism, scurvy, diphtheria, measles, variola, scarlatina, pertussis, enteritis, duodenitis, hepatic and nephritic diseases, etc.

In some epidemics resolution occurs promptly and completely, whilst in others it does so but slowly, irregularly and incompletely, or there may be a strong tendency for the inflammatory action to pass on to chronicity, abscess or gangrene.

AN EXTENSIVE BURN WITH SERIOUS COMPLICATION.—RECOVERY.

BY HERBERT C. JONES, M.D.,
OF WINTER PARK, FLORIDA.

On May 18, 1888, about 3 P.M., I was called to see Mrs. James S., æt. 27, the mother of twins two years old, and then in the eighth month of her second pregnancy. She was of robust constitution, a native of the North of Ireland, three years a resident of the United States, the last year a resident of Florida.

The family were living in an unfinished house, about a mile and a-half from my office. While

engaged in baking bread, the back part of her dress became ignited by the flames from the side-door of the cooking stove, which she had thoughtlessly left open after replenishing the fire. Unconscious of what had taken place, she walked to an open passage, and stood in the breeze until enveloped in flames. Her screams soon brought the only man in the vicinity, who was working a few hundred yards from the house. He attempted to smother the fire with a quilt, but only succeeded in burning his hands, and the quilt. Seizing a pail full of water, standing by, he threw that over her, and by this means extinguished the flames, which had little left to feed upon, having consumed all her clothing except that which covered her breast, and shoulders, and feet.

Upon my arrival I found her enveloped in a sheet, pale and trembling, but conscious. A clammy sweat and fluttering pulse denoted marked shock. The "burnt district" embraced the front and sides of the abdomen, both gluteal regions, almost the entire inner and outer surface of both thighs, one leg to the foot, one hand and arm to the shoulder, and the other to the elbow. The chest and back as far as the middle of the lumbar vertebrae, were not involved, and the face was only slightly burned.

The prognostic problem involved a burn, (though in places superficial,) involving fully one-half the integument—the patient sure to undergo a premature delivery, (fœtal movement ceased to be felt soon after the accident,)—the hottest part of a semi-tropical summer just ahead; and an exceptionally hot one it proved. Viewing it from this standpoint my prognosis was unfavorable. Perhaps this view was strengthened by an erroneous impression we of the North have of the character and influence of a Florida summer. Assisted by Dr. M. A. Henkel I dressed the burn with cloths dipped in the orthodox mixture of oil and lime water; super-imposing a thin layer of cotton wadding and a light roller bandage, and gave the patient stimulants and sufficient opiate to lull pain. At the next morning and evening visit catheterization was found necessary. During the day vomiting was quite frequent, and annoying. That this was due to shock, and not to the opiate, was evident from the excellent tolerance of opiates subsequently.

Thirty hours after the burn labor began, and before I reached the house rupture of the membranes occurred. With no untoward symptoms, and no particular difficulty, except such as resulted from the deplorable state of the patient, she was delivered of still-born twins, weighing about four and a-half and five pounds respectively. Anaesthetics were not used for fear of renewing the vomiting, and because, with me, chloroform even in labor, is a remedy to be resorted to *in extremis*.

Briefly to summarize the subsequent treatment:

the dressings were removed as infrequently as a due regard to cleanliness and antiseptics would permit. The cloths were wrung out of an antiseptic solution before being saturated with the "carron oil." The principal difficulties were encountered in dressing the gluteal region, and the abdomen, which was the most deeply burned, and the last part to heal. A water-cushion was placed under the hips, and afforded great relief. Deodorized tincture of opium in syrup of chloral was used for pain and insomnia. Quinine was given regularly, and in small doses for a few weeks. The bowels were relieved, when necessary, with salines. The blisters were emptied by needle punctures, and sloughs, and dead epidermis removed as soon as separation occurred, or it could be done without irritation.

After a few weeks the patient was allowed to sit in a reclining chair, and at the end of three months she was dismissed well, except for a small abdominal sore, which has since healed. All disfigurement, save a slight scarring of the hands, is concealed by her clothing; and she is to-day apparently as strong as ever. Whether the cicatrized abdominal walls would again endure the distention of pregnancy is a question of the future. Such an occurrence I should view with some apprehension.

Winter Park, Florida, Jan. 22, 1889.

MEDICAL PROGRESS.

TREATMENT OF DIPHTHERIA.—HOYER (*Memorabilien*, 1888, 129) defines his views on the nature of diphtheria and describes his method of treating it. Considering it to be a disease produced by a microorganism invading a tonsil whose epithelium is lost, he devotes his attention to the prevention of this invasion, or to the destruction of the bacteria which have already attacked the tonsil. For this purpose he paints the tonsils with a solution of thirty parts of gallic acid, sixty parts of distilled water and ten parts of glycerine. A brush of fine bristles is employed and considerable pressure exercised against the diphtheritic membrane. He carries out this procedure three times in succession, repeats it every six or eight hours, and continues the treatment until the diphtheritic membrane has disappeared. He prescribes also a gargle of one part of chlorine water and three parts of distilled water to be used several times between the applications to the throat. The same mixture is to be injected into the nose in cases of malignant diphtheria. Persons who are in attendance upon patients with the disease should also use a gargle of the same nature. The author declares that he cannot say sufficient in praise of gallic acid for

the purpose indicated. It renders the putrefactive bacteria innocuous, hinders their growth and increase, by its astringent action on the tonsils protects against their absorption, and by the same action loosens the deposition upon them. It is also entirely uninjurious to the patients.

The Constant Blue-Gum Steam Treatment.—J. MURRAY-GIBBES (*Australian Med. Jour.*, Oct. 15, 1888) writes again in favor of the use of eucalyptus in diphtheria, having recommended it a year ago. By giving the vapor of the oil with steam we not only gain the beneficial effects of the latter, but obtain an antiseptic action also. He keeps his patient under a tent-like covering in a warm, moist atmosphere containing a volatile oil, obtained by placing leaves of the eucalyptus in a jug of boiling water. In this atmosphere the patient remains as long as there is any inflammation of the throat. Since 1881 he has treated 163 cases in this way, and with only one death. In the practice of a colleague 305 cases were treated in the same manner, and with only one death. In the section of New Zealand in which he practices blue-gum steam has become a household remedy, on account of the confidence which the people have in it for sore throat, cold, bronchitis, and other chest affections. The author says that the antiseptic steam prevents the decomposition of the membrane in the throat, and the consequent septic absorption. It also prevents the spread of the disease to other members of the family.

Insufflations of Sugar.—C. LOREY (*Deutsch. med. Wochenschr.*, No. 46, 944, 1888) highly recommends the treatment of diphtheria by the insufflation of very finely powdered sugar upon the tonsils, pharynx, posterior nares, the entrance to the larynx, and after tracheotomy, through the canula. As a result of careful observation on eighty cases of diphtheria of all forms, and at all ages, he concludes that under this treatment the duration and extent of the diphtheritic deposit, and the danger of general infection can be lessened. The odor of decomposition also disappears, the mucous membrane of the tonsils and pharynx becomes more natural in appearance, and is coated with an abundant mucous secretion, and the false membrane softens and becomes detached. In many cases in which the larynx was involved the insufflation loosened the cough, and the threatening symptoms gradually ceased. The favorable action of sugar on unhealthy granulations has long been recognized. In the pharynx the fine particles of sugar penetrate into the mucous membrane and cause a flow of its secretion toward the surface, loosening the membrane, and perhaps washing away the microorganisms. General treatment is, of course, to be employed also, and for this purpose the author prefers apomorphia, and later an easily digested iron preparation.

Acetic Acid in Diphtheria.—F. ENGLEMAN (Deutsch. med. Wochenschr., No. 46, 945, 1888) made extended bacteriological studies on many of the different substances usually employed as local applications in diphtheria, in order to determine their power to prevent the growth of micro-organisms. After detailing somewhat the nature of his experiments, he concludes:

1. Diphtheria must be treated on the same principles which are generally accepted as applying to analogous processes in surgery and obstetrics.

2. The majority of the substances recommended for local application in diphtheria deserve no confidence, since they do not exercise sufficient antiseptic power.

3. Almost only those act with certainty which in sufficient concentration have proved themselves of value in surgery also. Like these acts the hitherto little esteemed acetic acid.

4. Most of the powerful antiseptics are illy suited for use in diphtheria, on account of their local or general poisonous action.

5. Acetic acid appears especially to be recommended on account of its certain antiseptic action, its harmlessness, and the slight irritation which it produces. It possesses also in high degree the power of penetrating animal tissues.—*American Journal of the Medical Sciences*, January, 1889.

VALUE OF OPIUM, MORPHINE, AND CODEINE IN DIABETES MELLITUS.—DR. THOMAS R. FRASER reports one case, out of several detailed observations, in which the results may be stated as follows:

1. The case was one in which mere restriction of diet did not have so marked an effect as occurs in many cases. The prospects of successful treatment were not, therefore, very hopeful.

2. Codeine had a very decided effect in reducing the quantity of urine, sugar, and urea. When contrasted with the reduction produced by restricted dietary alone, the addition of 9 grains of codeine in the day lessened by about one-third, and of 15 grains of codeine in the day by about one-half, the quantity of fluids drunk, and the quantity of urine, sugar and urea, and it slightly reduced the specific gravity of the urine.

3. The addition to 15 grains of codeine of the $\frac{1}{10}$, and afterwards of the $\frac{1}{10}$, of a grain of sulphate of atropine, caused a still further, though not a large, reduction.

4. After the administration of codeine had been stopped, an interval of six days on restricted diet, without any medicinal treatment, was not sufficient for a deterioration to occur to the conditions present before codeine had been given.

5. The subsequent administration of $\frac{1}{2}$ grain of opium thrice daily produced a considerable reduction. With 1 grain of opium thrice daily the reduction was to less than one-half when con-

trasted with the amounts during a restricted diet alone, and before any medicinal treatment had been adopted. One grain and a half thrice daily produced a further reduction; and when to it was added $\frac{1}{10}$ of a grain daily of sulphate of atropine, a still further reduction occurred.

6. Restricted diet, with $\frac{1}{3}$ of a grain of hydrochlorate of morphine thrice daily, or 1 grain daily, also produced a marked reduction; and the conditions relative to the points under investigation were even more satisfactory than when 15 grains daily of codeine were being administered. While this small quantity of morphine was being taken, the fluids drunk by the patient were only one-third, the urine and sugar less than one-half, and the urea about one-half of the amounts during the period of restricted diet alone, before medicinal treatment had been commenced.

As to the general state of the patient during each of these conditions of treatment, restriction to an antidiabetic dietary produced improvement in thirst and mental activity. So long as the quantity of codeine was limited to 6 grains daily, this improvement was maintained; but when 9 grains, and even more, when 15 grains were being taken daily, the appetite failed, she became listless and apathetic, vertigo was occasionally experienced, and the patient remained for a considerable part of each day asleep in bed. The addition of atropine to the codeine did not produce any improvement, but rather added to the discomfort by impairing vision; and even when only $\frac{1}{10}$ of a grain was being taken thrice daily, the pupils became slightly dilated. When codeine and atropine were stopped, and a restricted dietary alone adopted, the health was not improved. The symptoms referred to became, indeed, worse, and prevented a prolongation of the period of restricted diet without medicine to the extent that seemed desirable before a new plan of treatment was adopted. When opium was now given a marked improvement occurred, but the larger doses caused some drowsiness during the day. With 1 grain daily of hydrochlorate of morphine the condition of the patient became more satisfactory. The drowsiness soon disappeared, the appetite improved, and she became sufficiently active to engage in ward work. Constipation of the bowels was not produced by any of the medicinal agents employed.

A consideration of these averages seems to show that, under a daily administration of 1 grain of hydrochlorate of morphine, the quantity of fluids drunk, and of urine, urea, and sugar voided, was rather less than when 3 grains of opium, and decidedly less than when 15 grains of codeine were being taken. In three other cases in which I have instituted a comparison between these substances in diabetes mellitus, morphine also showed a marked, though not so great, superiority over codeine. After this note had

been prepared, I have seen a recent paper by Dr. Bruce, of London, in which similar results were obtained in two very carefully observed cases. So far as I know, also, the favor with which codeine is regarded in this disease has not been supported by any observations calculated to show its value relatively to opium or morphine so clearly as in the cases to which I have referred. The evidence, therefore, seems to indicate that codeine is a less powerful remedy in diabetes than either opium or morphine, and to confirm the view that in its therapeutic value it ranks as a weak or diluted morphine.

The conclusion receives an importance (no doubt a subsidiary one) from the circumstance that codeine is about three times as expensive a substance as morphine. The great demand for it has led to its being manufactured from morphine so largely, that probably one-fourth of the codeine in the market is an artificial substance. When we consider the large doses that are required in diabetes mellitus, and the general protracted duration of this disease, we are, I think, justified in asking for more clear evidence of its superiority over morphine than has as yet been produced.—*British Medical Journal*, Jan. 19, 1889.

RELATIONSHIP BETWEEN NEURALGIA AND ABORTION.—DR. A. D. LEITH NAPIER, in a consideration of this subject, says:

1. Neuralgia and abortion are frequently associated.

2. In certain cases of "habitual abortion," neuralgia invariably manifests itself as the first symptom, attacking cranial or spinal nerves remote from the uterus.

3. If treatment relieves the pain there is a strong probability that uterine disturbance will not commence, or, if already there have been contractions, these will cease.

4. Neuralgia, while perhaps most common in the rheumatic, occurs in different types of patients: in the anæmic, dyspeptic, or mal-nourished; or in the over-fed, indolent, and plethoric.

5. Foetal death is sometimes the evident cause; sometimes evidently results from the reflex irritation associated with the neuralgic pain.

6. Acute neuralgias occurring in pregnancy may not in any way interrupt healthy gestation.

7. When severe facial, cervical, or other neuralgia yields to treatment, even although the embryo is dead, uterine contractions and emptying will not occur for days, perhaps weeks.

8. The trifacial, occipital, and cervical nerves are most commonly affected; but brachial, intercostal, lumbar and sciatic neuralgias are also met with.

9. Acute gastric irritation is associated with neuralgia and abortion. Pregnancy sickness, although very severe, but seldom causes miscarriage; but gastrodynia, which is sometimes accompanied by salivation and a constant feeling of

nausea and depression, not infrequently precedes acute neuralgia, which eventually causes uterine irritation, and ends in abortion.

The deduction is, that there are two sets of nerve affections in pregnancy: 1, those of simple localized peripheral origin, as neuralgia from dental caries, from vesical, rectal, or pelvic pressure, which seldom go on to cause uterine neuralgia of such degree as will end in contractions sufficient to cause premature expulsion of the embryo; and 2, neuroses, which owe their origin to general conditions of constitutional disturbance, and which may manifest themselves by appearing as acute neuralgia or cranial or spinal nerves.

In the latter class the inhibitory action will sooner or later be gravely affected, and the normal excito-motor conditions will speedily involve the organ upon which physiological action has exercised its paramount influence, that is to say, a patient, suffering, for example, from chronic rheumatism, will be apt to abort not only from chronic rheumatic endometritis, but from the central neural disturbance due to the blood deterioration. Neuralgia occurring in such a case may be facial or intercostal, but speedily becomes uterine, not from peripheral, but from central causes of irritation. A few hours after the commencement of an acute rheumatic neuralgia in the head and neck, sharp ovarian and uterine irritation is experienced; contractions, at first spasmodic, and then regular, sharp, and in muscular waves, accompanied by hæmorrhagic effusions, may very shortly terminate the pregnancy.

I have found that the successful control of neuralgia in pregnancy demands attention to one or two points. If the patient is anæmic, quinine given alone in 10-grain doses twice daily, or, still better, with a grain of opium with each dose, is best as an immediate sedative, and free doses of arsenical solution are most useful as inter-attack treatment. But when the patient is plethoric, especially if there is a gouty or rheumatic tendency, chloride of ammonium, 10 to 15 grains, every two, three, or four hours, with bromides of ammonium or sodium, opium, and aconite, or with veratrum, will answer best. *Viburnum prunifolium* is of the greatest value in some cases, and certainly ought to be given as soon as the uterine pains are felt. The *Liq. Caulophyllum et Pulsatillæ Co.* promises to prove valuable as a uterine and ovarian sedative, and might be given either alone, or with *viburnum* in lessened doses, as soon as acute pain has subsided. Other patients will do well with antipyrin, gr. xv., every two or three hours, or iodides and alkalis; and for some I conceive a course of baths at Kissingen, Kreuznach, Ems, or Wiesbaden, will do more good than any drug. But we must act promptly and dose liberally during the acute attack of neuralgia.—*Edinburgh Medical Journal*, February, 1889.

FRACTURE OF THE ISCHIUM.—P. A. SURGEON S. T. ARMSTRONG reports the following case:

Ben Olsen, æt. 38, a native of Norway, was admitted to the U. S. Marine Hospital, New York, on November 14, 1887. He stated that fourteen days previous to his admission to the hospital, while clearing a line on board his vessel, he slipped and fell into the hold, a distance of 10 feet. He struck on the floor beneath, with the right thigh extended and receiving the shock of the impact. He was unable to rise, and after being taken to his bunk the thigh commenced to swell; the mate applied kerosene oil to relieve this condition. By the eighth day after the accident the thigh had returned to its natural dimensions.

When admitted he was examined by Internes W. P. Spratling, who noted that a "thorough examination revealed no fracture of any portion of the femur or pelvis. There seems to be a deep-seated bruise of the gluteal muscles, and there is tenderness on pressure over the knee-joint."

On the 5th this note was made on the history sheet: "Patient can put almost normal amount of weight upon the foot while standing; the tenderness about the hip-joint is disappearing." The diagnosis of contusion of the thigh was made, though I understood that one medical officer who saw the case believed it to be an impacted fracture of the femur. On the 11th, the case having come under my charge, a very thorough examination was made, as the persistence of pain in the right hip seemed scarcely in consonance with a contusion. The usual manipulations of the thigh were made, forced flexion causing pain referred to the region of the head of the femur. Similar pain was caused by rotation outward. The pain was not sharp, as it would have been in case of fracture of the neck of the femur, nor was the foot everted when the patient lay upon his back; so any injury to the femur was excluded. Passing the index finger of the right hand into the rectum and feeling along the ramus of the right ischium, an unevenness was detected. When the thigh was flexed or rotated, motion could be felt at this point; the line of fracture was transverse. The patient was examined by the other officers on duty at the hospital and the diagnosis confirmed.

The patient was put upon his back, with support to the right leg to secure immobility. He was not very intelligent and was wilful, the nurse informing me that he would move whenever possible. In consequence, on the last of December motion was still detected at the site of fracture. He was allowed to sit up and walk with a crutch, as it was believed that the thigh would make extension on the bones and the motion excite the deposit of new bone. January 30 he was returned to bed, and on the 5th of March he was allowed to sit up, as there seemed to be bony union then.

The use of the lower extremity was regained

very slowly, and when he dispensed with his crutches he had a decided limp on account of shortening of the leg. He was discharged from the hospital July 5.

All works on general surgery refer to this fracture as unusual. Gross (*Surgery*, vol. 1, p. 961) states that there may be either shortening or retention of natural length of the lower extremity. In Hamilton's excellent monograph on fractures he refers to the necessity of rectal, or in females of vaginal, examination. The history of this case, it is believed, will show the necessity of making a rectal examination in all cases of injury to the thigh where fracture of the femur is suspected but not present.—*Report of the Marine Hospital Service*, 1888.

AN INGENIOUS METHOD OF FORMING A SPHINCTER AFTER GASTROSTOMY.—To avoid the usual unfortunate and almost inevitable leakage from the artificial opening in cases of gastrostomy, GIRARD recommends the following procedure: "Through a fifteen-centimeter vertical incision, the left rectus muscle is divided in its upper portion in the median line. The peritoneal cavity is then opened near the middle of the cut, and a wedge-shaped portion of the fundus of the stomach drawn out through the wound. A row of sutures is then introduced so as to include the posterior portion of the sheath of the rectus, the edge of the peritoneum, and the stomach-wall at the base of this protruding portion. These are to fix the stomach in the wound. An incision ten centimeters long and parallel to the original wound is now made on either side of the latter, so that two bundles of muscle-tissue of the size of a finger are formed. These bands are now crossed laterally, and the stomach drawn out through the sphincter-like opening thus made in the interval between them. The muscle-bands and gastric pouch are now fastened in place by sutures, after which the stomach is immediately opened. The author thereby hopes to obtain a sphincteric action upon the stomach-opening which shall be under muscular control, or, should the muscle-structure disappear, that the cicatrix itself, being pulled upon by the rectus, will accomplish the desideratum.

Girard performed this operation recently upon a patient, but as the case died before reacting from operation we cannot yet be sure of its utility.—*Wiener Med. Presse*, No. 25, 1888.

EXPERIMENTAL IODOFORM POISONING.—DR. A. V. KORIANDER, of St. Petersburg, has endeavored to throw some light on the vexed question of the suitability of iodoform for use as an antiseptic by poisoning dogs with it, and examining the morbid appearances post mortem. The iodoform was introduced into the peritoneal cavity in quantities varying from 0.3 to 1.5 gram

per kilog. of the animal's weight. The microscopic sections of the organs were stained by hæmatoxylin and lithion-carmin. Nephritis affecting the renal glomeruli was invariably found, and the liver was infiltrated by minute fat granules. These appearances are considered by Dr. Philipovich to be characteristic of iodoform poisoning.—*Lancet*, Jan. 19, 1889.

ACTION OF ACIDS AND ALKALIES ON DIGESTION.—These are some of the results of Jaworski's investigations upon the *action of hydrochloric, lactic, and acetic acids on the functional activity of the human stomach*: The mucus is precipitated; an increased biuret action appears, particularly after hydrochloric acid; an influx of bile usually follows large doses of acid; the secretion of pepsin is materially assisted, while that of the hydrochloric acid is but slightly influenced; 200 cubic centimetres of normal acid disappear from the stomach in seventy-five to ninety minutes; and long-continued administration of acids checks the normal secretion of hydrochloric acid. The action of alkalies on the digestive function appears to be to dissolve the mucus and hinder secretion of pepsin, whereas the acids precipitate the mucus and induce pepsin secretion. An increased secretion of hydrochloric acid, however, succeeds the disappearance of alkalies from the stomach. The prolonged use of either acids or alkalies in large quantities may lessen or even stop the secretion of hydrochloric acid; but carbonic acid, both as a gas and when dissolved in water, favors the secretion of both hydrochloric acid and pepsin, and consequently increases the digestive power of the stomach as well as its mechanical activity.

Certain inorganic salts, such as the potassic, sodic, and ammoniac sulphates, and the potassic and sodic phosphates, markedly hinder tryptic digestion, especially the potassic phosphate.

In artificial digestion experiments it was found (Martin and Williams) that the presence of bile acids accelerated the amylolytic action of the pancreatic juice.

In the digestion of fats, bile alone is insufficient, and in rabbits the same has been found to hold good as to the pancreatic juice (Dastre). It would follow, therefore, that the simultaneous action of both juices is essential, bile promoting the absorption of fats, and pancreatic juice being the active agent in their decomposition.

In artificial-digestion experiments it is often very difficult to get clear filtration, owing to the presence of very finely divided matter in suspension. By vigorously shaking the fluid, however, with fibrous asbestos, the subsidence of the solid particles may be greatly assisted.

Ferments capable of converting starch into sugar, and of inverting cane-sugar, have been found in the healthy feces of children and adults, and their presence probably shows that some action

more important than the mere absorption of water occurs in the large intestine.—*British Medical Journal*, Dec. 29, 1888.

ACTION OF IRON IN CHLOROSIS.—Chlorosis is a form of anæmia apparently limited to females about puberty. Iron in this disease causes a great increase in the hæmoglobin, but as Hamburger and others have shown, very little of the iron is absorbed from the alimentary canal, it being taken up solely in the form of organic compounds, such, for example, as are formed in the processes of plant life. Further, that the total iron in the body amounts only to about 3 grams, an amount which is taken many times over during treatment. Possibly, as Bunge suggests, the iron is here of use by removing the excess of sulphur from the body; for in chlorosis due to excessive fermentation processes in the alimentary canal hydric sulphide is generated in large amount, and destroys the organic compounds of iron that go to form hæmoglobin. The presence of iron in the alimentary canal prevents this destruction going on. Landwehr, however, taking into consideration the limitation of chlorosis to the female sex, and to the period of puberty, is inclined to doubt this explanation. He is disposed, on the contrary, to regard the disease as one caused by an excessive development at this period of the substances containing animal gum required for the after nourishment of the embryo, and which acts injuriously on the hæmoglobin molecule. Iron precipitates this animal gum in the alimentary canal, and thus excess of it leaves the body in the feces.—*British Medical Journal*, Dec. 29, 1888.

TREPHINING THE MASTOID PROCESS.—DR. MITZKUNA proposes a new locality for trephining the mastoid process. The ear is drawn forward, whereby a fold (of skin) is formed just behind the ear; under this fold a flat, bony prominence is felt; between this prominence and the base of the mastoid process is a depression, which is the place for trephining. The advantages of this locality are:

1. A chisel can descend from one-fourth to one-third of an inch with safety.
2. The transverse sinus, which takes a different course in different people, never touches this point.
3. The thickness of the temporal bone is greatest at this point.
4. The only drawback of this locality is the possibility of going through the external auditory canal, but this is nothing when compared with the possibility and danger of injuring the transverse sinus.—*Wiener klin. Wochenschrift*, January 17, 1889.

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THE RELATION OF DRESS TO PELVIC DISEASE.

The questions as to the relations of dress to disease are assuming larger proportions, and taking a more healthy hold upon the minds of laymen; and as laymen become more interested in them, and ask for more knowledge, the more information must medical men have to impart, if they would take the position they should occupy as instructors of the public in preventive medicine. The readers of THE JOURNAL will remember the very interesting address of Dr. D. Hayes Agnew, at the last meeting of the American Surgical Association, on "The Relation of Social Life to Surgical Disease."

The most recent contribution to this subject is a paper read at the last annual meeting of the Michigan State Medical Society, by DR. J. H. KELLOGG, on "Experimental Researches respecting the Relation of Dress to Pelvic Diseases in Women." For many years it has been asserted, though on inaccurate and therefore unreliable data, that the modes of dressing in vogue among civilized women constitute an important etiological factor in the production of various forms of pelvic disease peculiar to the sex. Dr. Kellogg now contributes the results of some investigations that he has made; and it may be said that his opportunities for experimentation are excellent. He considers his results under five heads: 1. A comparative study of the function of respiration in civilized and uncivilized women. The means of investigation employed for exact comparison were the pneumograph and the kymographion, or recording cylinder. 2. Studies of the influence of

respiration upon the pelvic organs, as shown by the tracings obtained by means of an inflated air pessary in the vagina connected with a recording tambour and cylinder. 3. Observations upon the influence of constriction of the waist upon intrapelvic pressure as measured by a peculiar form of mercurial dynamometer, to be described in this paper. 4. Observations of the amount of external pressure exerted by a tight corset, tight bands, or other form of constriction of the waist, as recorded by the dynamometer. 5. Direct measurements of the amount of displacement of the uterus produced by constriction of the waist, the measurements being taken with an instrument devised for this purpose.

In regard to respiration in civilized and uncivilized women, it has been held for a long time that there are two distinct types of respiration in human beings, characteristic of the two sexes: abdominal and costal—and physiologists asserted that adult males breathe chiefly with the lower portion of the chest, while women breathe chiefly with the upper part of the chest. Nine years ago Dr. Kellogg wrote: "It is undoubtedly true that most women do breathe almost exclusively with the upper part of the chest; but whether this is a natural peculiarity, or an acquired, unnatural and depraved one, is a question which I am decidedly inclined to answer in harmony with the latter supposition, basing my conclusion upon the following undeniable facts: 1. In childhood, and until about the age of puberty, respiration in the boy and the girl is exactly the same. 2. Although there is a change in the mode of respiration in most females, usually soon after the period of puberty, marked by increased costal respiration and diminished abdominal or deep respiration, this change can be accounted for on other than physiological grounds. 3. I believe the cause of this modification of respiration is the change in dress which is usually made about the time of puberty. The young girl is now becoming a woman, and must acquire the art of lacing, wearing corsets, 'stays,' and sundry other contrivances which will aid in producing a 'fine form.' 4. I have met a number of ladies whose good fortune and good sense had delivered them from the distorting influence of corset-wearing and tight-lacing, and have invariably observed that they are capable of as deep respiration as men, and practice it naturally. I am thoroughly convinced that this so-

called physiological difference between man and woman is really a pathological rather than a physiological difference. In short, I believe that the only reason why women do not, under ordinary circumstances, breathe as do men, is simply that they cannot breathe naturally." Dr. Kellogg's many recent observations tend to confirm the views thus expressed.

Observations made upon Chinese women in San Francisco showed that in them there was nothing of the costal type of respiration; the abdominal breathing was as prominent in them as in males that lead sedentary lives. Observations made among the Yuma Indians showed no differences between the male and female respiration. The same results were obtained among the Chickasaw Indians. The tracing of the respiratory movements of a Scotch woman that had never worn a corset, given in Dr. Kellogg's paper, shows a decidedly abdominal type of respiration.

Physiologists have attributed the supposed female type of respiration to the fact of gestation. But Dr. Kellogg's observations with the pneumograph contradict this view. Respiratory tracings of *normal* women in the pregnant state show that the breathing is abdominal. In short, the whole matter may be thus summarized: "The so-called female or costal type of respiration, which prevails among civilized women, is the result of their restricting and unphysiological mode of dress, and is not due to the influence of gestation."

If it be admitted that the normal respiratory type in the female is the counterpart of that in the male, it must be evident that respiration in the female has an important influence on the pelvic organs. Illustrating this are some interesting tracings, made by means of an air pessary connected with a tambour, the movements being recorded upon a revolving cylinder. The facts of interest elicited by observations of the influence of respiratory movements upon the pelvic viscera are: 1. There is a normal movement of the pelvic viscera corresponding to the movements of respiration. 2. These movements are lessened by the constriction of the waist, inducing the costal type of respiration, as the result of two factors (*a*) the lessened movements of the diaphragm, and (*b*) the downward displacement produced by the pressure of the corset upon the abdominal walls.

By the use of an ingenious instrument of his own construction, Dr. Kellogg shows that con-

striction of the waist has a very marked influence upon intrapelvic pressure. He has found that the average pressure exerted at the waist by a tight corset or tight bands is, in ordinary respiration, about .3 of an inch of mercury. It was found, also, that the movements of the uterus up and down in ordinary breathing are from .1 to .3 of an inch. Coughing or deep breathing, straining, and other similar movements may increase this to .5 inch. By the application of the corset, or other constricting means, the uterus is lowered in the pelvis from .2 to .5 of an inch.

The more one studies humanity in the natural state, the stronger becomes the conviction that woman is not physiologically weak and prone to pelvic disease, and that the chief element in civilization that causes pelvic diseases in the female is the dress of civilized females. The student of zoology cannot admit that the human female alone is normally of a very different type, as regards one of the chief functions of animal life, from the male. And if there is something in our civilization that deforms and predisposes to disease the mothers of our men, the sooner we reform that something, and improve it out of existence, the better for the race.

MORE HOSPITALS THAN MONEY FOR THE SICK.

The last fifty years have been characterized, especially in Great Britain and this country, by a rapid increase in the establishment of voluntary hospitals for the sick and injured, particularly in the leading centres of population. It has been a period of great activity and advancement in all departments of medical science and practice, giving birth to and rapidly multiplying so-called specialties; and each specialty in turn has demanded hospital, infirmary, or dispensary accommodations for its own class of patients. These demands have generally found a sufficient response from the religious and charitably-disposed citizens to cause the building and furnishing of hospital after hospital, and free dispensaries of every grade, but nearly all left for support to the annually recurring demand for increased contributions. The result reached at present is, for the large cities of Great Britain and the United States, an average of about one hospital bed for every five hundred of the population, and free dispensaries

furnishing medicines and medical advice, not only to all the really out-door poor, but also to a very important percentage of those who are perfectly able to pay reasonable fees for such medical services as they need. On the other hand, notwithstanding all the devices for raising money that human ingenuity has been able to invent, including charity balls, church festivals, hospital Sunday collections, mimic theatricals, variety fairs, etc., nearly all these voluntary institutions ostensibly dedicated to the relief of human suffering are found in debt at the close of each financial year.

DR. SUTHERLAND, who has recently written an interesting series of papers concerning the condition of the voluntary hospitals of Great Britain, gives the following statistics concerning the voluntary hospitals of England, Scotland, and Ireland, not including the infirmaries sustained by the poor-law rates. Dublin has one hospital bed to every 140 of the population; Belfast one to 380; Edinburgh one to 410; London one to 420; Birmingham one to 700; Sheffield one to 830; and Leeds one to 1,020. In Glasgow there are 1,057 beds daily occupied in the voluntary hospitals at an annual expense of \$220 per bed, while there are 1,169 beds daily occupied in the hospital supported by the poor-law rates at an annual expense of only \$115 per bed. The annual deficit in the working expenses of the voluntary hospitals of the last-named city is stated at \$45,000. And the *British Medical Journal*, for February 2, 1889, in stating the foregoing facts, adds that, this impecunious state of the voluntary hospitals in London is still worse.

The same evils, though possibly in less degree, exist in this country. If we include the Cook County Hospital with the voluntary hospitals of all classes in this city, we have at least one hospital bed to every 450 of the population. Omitting the County Hospital, there would be in the hospitals dependent largely upon voluntary contributions, one bed to every 600 of our population. And still there are hardly less than half a dozen more hospital projects being urged upon the attention of the community, most of them with more zeal than wisdom. There are questions of great importance relating to the proper management of the poor, and of the sick poor especially, together with the relations of medical men to them, that have occupied much of our attention through a

long professional life; and concerning which we have been deterred from writing only from want of time. But no other questions are more worthy of the attention of the wisest members of every community than these.

EXPERIMENTAL DIABETES.

MM. GERMAIN SÉE and E. GLEY have recently made a report on this subject to the Académie des Sciences. Thus far all attempts to produce diabetes in animals have failed—at least such forms of diabetes as are seen in the human subject. It is well known that irritation of the central end of the vagus nerve gives rise to hyperglycæmia and glycosuria. The experimenters have succeeded in producing permanent irritation of the central end of the right pneumogastric in dogs, and several of the animals have presented not only glycosuria, but true azoturia with notable and rapid emaciation. But this is only one of the elements of diabetes. Dogs have been made glycosuric also by being given daily a quantity of phloridzin. After the first day the urine of these dogs contained, for twenty-four hours, from 10 to 12 per cent. of glucose. The glycosuria ceased with the stoppage of the administration of phloridzin. This experiment confirms a similar one made by von Mering. But phloretin, one of the products of the breaking up of phloridzin, causes scarcely 1 per cent. of glucose to appear in the urine. It is evident, then, that phloridzin does not cause glycosuria by its radical phloretin. In whatever way the dogs were fed, under these experiments, the urine still contained sugar. This fact is interesting, since, as all the glycogenic material of an animal to which phloridzin is given is very rapidly destroyed, as von Mering has shown, it is evident that glucose may be formed in the organism at the expense of the albuminoid and fatty matters.

It was observed that an animal under experiment became voracious, and, unless subjected to "forced feeding," emaciated rapidly. From this it would appear that glycosuria accompanies, in a measure, polyphagia. Glycosuric animals were subjected to the various methods of treatment of diabetes. The two methods of treatment by bicarbonate of soda and by arsenic were inefficacious. The administration of bromide of potash caused a slight diminution in the amount of sugar. The most marked diminution of glycosuria was

obtained by the administration of antipyrin. Lépine and Porteret have recently shown that antipyrin retards the transformation into glucose of the glycogen of the liver and muscles. M. Sée has used antipyrin in some cases of diabetes, and obtained very good results. Since the general action of antipyrin is to diminish excitability of the nervous system, may it not be, ask MM. Sée and Gley, that diabetes tends to an exaggeration rather than to a retardation of nutrition.

EDITORIAL NOTES.

THE RUSSIAN MEDICAL CONGRESS, which was opened in St. Petersburg on January 15, and continued seven days, is said to have been a great success. It was held under the Presidency of Dr. Erismann, Professor of Hygiene at Moscow. The number in attendance was 1500, against 1000 at the second congress, and 500 at the first. The congress was divided into eighteen sections, and a very large number of papers was read. An exhibition, which remained open for three weeks, was a very interesting feature of the congress.

A NEW SOURCE OF COW-POX has been recently been discovered by the Vaccine Committee of Milan. The animal was "covered," says a French exchange, with a confluent eruption, and in a few days a cow inoculated from it. The inoculation took well. This is the seventeenth time that the Milan Committee has found a natural source for vaccine virus.

THE FUNCTIONS OF THE BRAIN have been still further studied by GOLTZ. He has destroyed extensive areas of the cerebra of dogs without killing the animals, and in one case a dog lived five months after the whole of the left hemisphere was removed, but showed modifications of character and mental enfeeblement. Goltz advises surgeons to be more bold in cases of cerebral tumors.

"LAVAGE" OF THE BLOOD has been experimented upon by DASTRE and LOVE. Considerable quantities of a physiological saline solution may be injected into the veins of an animal without causing apparent trouble. The quantity used may be as much as two-thirds the weight of the animal (rabbits), but the solution should not be introduced faster than 3 ccm. a minute, and 3

ccm. to the kilogramme of weight of the animal; furthermore, the organs, especially the kidneys, should be healthy. When the solution is introduced too rapidly, and the organs are not healthy, exudations take place into the serous cavities, and there is exophthalmos, suffusions of blood, and exudations into mucous membranes. The urinary secretion bears a constant ratio to the amount of fluid injected, when the kidneys are healthy. The experiments show the existence of a physiological balance between the circulatory and the serous systems. Analyses show that when the animal has returned to the normal condition the injection of a physiological saline solution has had no other effect than that of washing out the blood.

A NEW COLD INDIA-INK INJECTION, described by TAGUCHI, permits examination by transmitted or reflected light. The coloring matter is not altered by light nor by chemical agents; the particles of carbon have no action on the tissues; and the coloring matter adheres to the walls of the vessels, and does not fall out of small sections. The specimens may be hardened in any reagent without change of color. They may be examined in the fresh state in glycerine, or may be colored by any desired reagent. The injecting liquid is prepared by grinding India-ink in water in such manner that a drop placed on blotting paper does not spread.

DR. JOHN C. DALTON, of New York, long known as one of the most eminent teachers and writers in the department of physiology, died at his residence in New York City on the 12th of February, 1889, aged 64 years.

ANTISPASMODIC ACTION OF ANTIPYRIN.—In the January, 1889, number of the *University Magazine* DR. E. T. BRUEN calls attention to the value of antipyrin as an antispasmodic. The drug modifies pain in neuralgia and certain forms of headache. Sonnenberger and others have used it in pertussis, and claim that it greatly reduces the number and severity of the paroxysms, very early in the disease. Dr. Bruen concurs in this opinion. He directs attention also to the efficacy of antipyrin in allaying spasmodic cough in cases of influenza with bronchial catarrh, and in some cases of subacute bronchitis. These cases almost always present, in the interscapular region, the

signs of enlargement of the bronchial glands. This enlargement causes pneumogastric irritation, and thus tends to produce spasmodic cough similar to that of pertussis. Two grains of antipyrin, given every three or four hours to an adult, or twelve or fifteen grains a day, will often modify the paroxysmal cough. The drug may be suspended after two or three days, and again resumed if the symptoms return. The paroxysms of some cases of asthma, and the severity of the symptoms, are reduced by antipyrin, given in 5 grain doses until 25 grains are taken—especially in cases in strong, robust men. In the painful period preceding the menstrual flow, says Dr. Bruen, antipyrin is again a useful drug. A 5 grain dose should be given, and repeated in half an hour. This effect is satisfactory until the system becomes habituated to the drug, when antifebrin may be a useful substitute, in one-half to one-third smaller doses than antipyrin. When administration by the mouth fails, enemata of from 15 to 30 grains of antipyrin may be used during menstruation in cases of dysmenorrhœa. The large dose, 30 grains, has been used by Windelschmid, but Dr. Bruen has not used doses of more than 15 grains.

THE USE OF YEAST in therapeutics, while not new, is recommended for scurvy by HEER, who treated 800 scorbutic patients with it, of whom but two died. The mortality of other scorbutic patients (prisoners), not treated with it, was much greater. Heer attributes to it some action on the fever and the course of the disease. Under its use the temperature fell from 41° to 38° C. in twelve hours.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, December 12, 1888.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN
THE CHAIR.

DR. JOHN H. PACKARD read a paper on

NOTES OF A SUCCESSFUL CASE OF LAPAROTOMY
FOR INJURY BY A CIRCULAR SAW.

Charles Brown, æt. 12 years, was brought to the Pennsylvania Hospital, September 24, 1888, having fallen against a circular saw in rapid mo-

tion. The accident occurred about one mile from the hospital. On his admission, the ascending colon and about two feet of the small intestine were protruding from a wound four inches or more in length, nearly vertical, on the right side of the belly, some two inches from the middle line. The mass was tightly grasped in the wound, so that access of air to the peritoneal cavity was prevented. The boy was in a condition of marked but not excessive collapse. He was etherized, and the parts antiseptically cleansed. The bowel was then carefully examined. Three wounds of the intestinal wall were detected; one involving the entire thickness, the other two the peritoneal coat only. At several points the omentum had been wounded, and the mesentery was cut in two places. The boy's woollen clothing had been torn by the teeth of the saw, and a great many minute shreds of the stuff deposited on the surface of the protruded mass. The three intestinal wounds were carefully sutured with very fine silk, after the method of Lembert. All the bleeding points were secured with fine carbolized catgut. Some ragged portions of omentum were similarly tied and cut off. Attention was next given to the cleansing of the peritoneal surface from all the bits of woollen threads deposited on it; a very tedious process, occupying more time than any other part of the operation. In order to return the protruded mass it was necessary to enlarge the wound somewhat; after which reduction was accomplished without difficulty. After irrigation of the peritoneal cavity, the edges of the wound were brought together with silkworm-gut sutures, secured by shot. A glass drainage tube with a closed and rounded end was inserted, and the usual antiseptic dressings applied, with a flannel over all. Every two hours the cotton rope filling the tube was removed, and suction was made with a hard-rubber syringe with a long nozzle, so as to prevent any accumulation of secretions. Reaction took place very favorably; the boy had only very slight pain, but some nausea and vomiting. The nausea and vomiting continued all next day, subsiding toward evening. A free movement of the bowels occurred, and I learned later that an attendant, just after the boy's admission, had given him by mistake 10 grains of blue mass, intended for another patient. As soon as the stomach became quiet, the administration of prepared milk and beef-tea, alternately every two hours, was begun.

On the 28th (the fourth day) there was only a slight yellowish discharge from the tube.

29th. The glass tube was removed, and a soft rubber one substituted for it. Solid food (milk toast) was given.

30. He ate an egg and some chicken-broth. A day or two after this the tube was removed, and a few days later the sutures. For some two

weeks after this the boy was kept in bed; he was allowed first to sit up in bed, and then to get up and walk about. On October 31st, thirty-seven days after the injury, he walked into the clinic-room; and on November 12th he was discharged, with directions to wear a binder for some time, and to report to us before dispensing with it.

I should have mentioned that, after the spontaneous movement of the bowels on the second day, an enema of turpentine and sweet oil was administered about every third day until his dismissal.

Certain features of this case may be briefly commented upon. The boy's youth was, of course, in his favor. He was stout and healthy, although his surroundings had not been, by any means, hygienic. But there was one circumstance of special advantage—the fact that the protruded mass quite filled up and plugged the wound in the abdominal wall. Besides this, the wounds were all of small extent, and no large vessels were divided. The presence of the almost innumerable shreds of soiled woollen clothing on the peritoneal surface was of course an element of danger, only to be set aside by the utmost care and patience in their detection and removal.

DR. JOSEPH PRICE: The fact that the protruding intestine completely closed the wound had a great deal to do with the successful result in this case. We know that undue manipulation and prolonged and needless exposure of intestine are frequent causes of shock and death this fact is beautifully illustrated in needlessly prolonged operations. I never could understand the vicious do nothing policy of ambulance surgeons in these cases of abdominal incised wounds. The ambulance surgeon should be prepared and instructed to act promptly in such accidents. Promptitude is everything. A pitcher of warm water and a few threads might save lives that are lost by carrying the patient untreated, with the intestines exposed, covered by filthy clothing to the distant hospital, there to wait for the chief to arrive before anything is done. I recently read of a case of a man who was accidentally eviscerated while hunting alone in the backwoods. Someone found him with the intestines protruding and covered with dirt, and carried him to the nearest brook, washed and sewed him up. He was also fortunate in *being away from opium* and from meddling nurses and officious residents of a general hospital, and he recovered. The strictest simplicity, absence of opium and of milk, indeed of all food till the patient asks for it, in except in greatly exhausted cases demanding early support or stimulation, will give the happiest results. I give plenty of fluids, toast water, barley water, stimulating enemata of beef-tea, with, perhaps, a little whisky if needed, and enemata of water to relieve thirst. We know how difficult it

is to prevent hæmorrhage in ether nausea. Careful preparation for the operation by the free use of salines will minimize the ether and bowel disturbance. I am satisfied that the free use of the salines is of greater importance *before* operation than after in abdominal work. The unintentional administration of blue mass in this case of Dr. Packard's was a happy accident and helped recovery. I wish particularly to congratulate Dr. Packard upon the excellence of the toilet, the care to secure perfect cleanliness under such difficult conditions, and the perfect drainage. The careful removal of all foreign material from the bowel, free irrigation, and perfect glass drainage in two desperate cases has given him a triumph in two cases of adominal work.

DR. PACKARD: I must say a word in reply to Dr. Price in defence of "my friend opium." You remove a tumor; all goes well until water is injected into the abdomen. Pain ensues immediately. You give a grain of the extract of opium by the rectum, when the pain disappears, the patient goes to sleep and wakes in comfort. Are you not justified in attributing this to the opium, and relying upon the same measure in similar cases? Of course it would be a great mistake to treat all cases of peritonitis with opium. The saline treatment is proper in suitable cases, and saves many lives. So we may say of opium in suitable cases. The error is in exclusiveness, whether in the one direction or the other. We must use our judgment in individual cases, and prescribe in view of all the conditions present. In this case I think nothing would have served my patient as the 1 grain of the extract of opium did. It was not a case of peritonitis however, and I did not so regard it. But suppose some enthusiast in salines had ticketed the case peritonitis and immediately administered purges, I hardly think such prompt relief would have been afforded. I would like, while on this subject, to mention a measure which I have employed for many years, and which has repeatedly seemed to me to avert threatened peritonitis, and that is the application of a dozen leeches to the abdomen. After operation for stone especially, as well as in other cases of traumatism, marked benefit has been derived from the adoption of this plan.

DR. JOHN H. PACKARD read a paper on

TUMOR PROBABLY OF UTERINE ORIGIN, ATTACHED TO THE SMALL INTESTINE, REMOVED BY LAPAROTOMY.

For the following notes I am indebted to the kindness of Dr. L. I. Blake, resident surgeon to the hospital. It is due to him also that I should acknowledge his skill and attention in dressing and caring for this patient.

Kate M., native of Ireland, æt. 26, domestic, single. Admitted to St. Joseph's Hospital November 13, 1888. Family history good. Per-

sonal history also good, with the exception of an ill-defined attack she suffered from three years ago, probably resembling in some points the present one, and which was pronounced by her physician at that time to be intestinal inflammation of some sort. She had been examined by two physicians before admission into the hospital. The first stated that she had inflammation of the womb, while the second led her friends to believe that she was pregnant.

On admission, she stated that she had been suffering for three weeks, getting worse gradually. On examination her abdomen was found to be enormously distended, and exquisitely tender to the touch. Constant pain was felt throughout the greater portion of the trunk. Temperature 101° F.; pulse 100 and moderately strong. This being neither history of traumatism nor marks of violence, a vaginal examination was made, but no abnormalities noted. Her menstruation was established at 15, and has always been regular. When pain was sufficiently relieved to permit manipulation of the abdomen, distinct fluctuation was elicited, and in the left ovarian region was an area of dulness, which, though slightly variable, was not obliterated when the patient was turned on the left side. Deep pressure on this spot detected a hard mass which receded from the touch, but returned, the hand being kept in position. Owing to the extreme tension of the abdominal walls it was impossible to ascertain anything as to its nature or attachments. The tympanities and ascites failing to respond to medicinal agents, the patient growing weaker, and at the end of three weeks the respiration being interfered with, an exploratory incision was decided upon.

The patient being in tolerably fair condition, the operation was performed by Dr. Packard on Saturday, December 8. The peritoneum was found to be very much thickened and congested, its appearance being scarcely distinguishable from that of intestine. After removing five or six quarts of clear serum from the peritoneal cavity, the incision was enlarged, revealing a growth attached to a knuckle of intestine in the lower segment of the abdominal cavity to the left of the median line. This tumor, a little larger than a foetal head, was hard and dense in structure, weighing one and a half pounds; encapsulated and attached by a narrow pedicle, little more than an inch in breadth, which seemed to be a redundant portion of the capsule thrown around almost the entire circumference of the intestine. This was carefully dissected away from the intestine, and all bleeding points ligatured. The peritoneal cavity was irrigated thoroughly with a solution of the bichloride of mercury, 1 part to 15,000 of distilled water. The peritoneum and abdominal walls were sutured separately, the former with catgut, the latter with silk-worm

gut. A glass drainage tube, perforated and closed at the bottom, was placed in Douglas' pouch, and the wound closed and dressed.

The operation was done under full antiseptic precautions. The patient showed considerable shock after the operation, from which she rallied slowly. It was accompanied by persistent vomiting, which was relieved by one drop of creasote every two hours, administered in syrup of vanilla. A peculiar temperature was exhibited during this period, the same thermometer registering successively in the mouth $96\frac{3}{4}^{\circ}$, in the axilla $97\frac{1}{4}^{\circ}$, in the rectum 101° . During the first twenty-four hours there was not sufficient discomfort or restlessness to call for anodynes. Up to this time, about six ounces of bloody serum had been drained from the cavity. Four ounces of warm distilled water were then injected through the tube, and allowed to remain four or five minutes. Since that time, during the last seventy-two hours, not more than three ounces of serum have been removed, and scarcely tinged with blood. A short time after the warm water was removed, the patient complained of sharp, shooting pains, with marked tenderness over the abdomen. These became so severe as to require a suppository of opium (one grain), which soon induced a quiet sleep, with no return of pain on waking.

Thirty-six hours after the operation a slight but persistent cough was developed, probably due to hypostatic congestion, since change of position gave relief. During the last three days the temperature taken in the mouth has not risen above $100\frac{3}{4}^{\circ}$, the pulse varying from 90 to 100. Ever since the operation the patient has evinced a strong craving for food, giving milk the preference above anything else.

[The subsequent progress of this case has been very favorable. On the 11th of December (the sixth day) the glass tube was removed, and a soft-rubber one substituted, until the 17th, when it was dispensed with. On this day she had a spontaneous and quite natural movement of the bowels. Suppuration occurred in the suture tracks, probably from insufficient preparation of the silk-worm-gut used. On the 24th of December (the sixteenth day) she was allowed to sit up in bed, the wound being quite healed.—P.]

DR. OSLER: I agree with Dr. Packard as to the pathological nature of the growth, and the possibility which he mentions is quite well recognized. An interesting feature of the case is the association of peritoneal effusion with solid growths in the abdomen. I have on several occasions been asked to see cases of ascites which depended upon the presence of tumors of ovaries or uterus.

Gynecological Society of Chicago.

*Regular Meeting, Friday, Nov. 16, 1888.*THE PRESIDENT, CHARLES T. PARKES, M.D.,
IN THE CHAIR.DR. A. REEVES JACKSON read a paper on
SOME UNCURED CASES OF UTERINE HÆM-
ORRHAGE.

I desire to report the histories of some of the cases in which I have failed to cure a rather frequent ailment—uterine hæmorrhage.

Case 1.—Mrs. F. W., first consulted me on July 7, 1884. She was 28 years old, and had been married two and a half years; no pregnancy. Menstruation commenced at the age of 16, and had always been regular and in every way normal down to the time of marriage. After that event, a period occurred at proper time. The patient then missed two periods. After lifting a heavy weight, a flow of blood appeared and continued for several weeks. She visited Dr. Wm. Goodell, of Philadelphia, who curetted the uterus in May, 1883. I do not know what, or whether anything, was removed, but the patient considered herself well for four months. In the following autumn, two periods were again missed. After a trifling misstep a red flow began, and continued about one-half of the time for nine months; then I saw her. She was a large but not tall woman, weighing 162 pounds, of dark and rather dull complexion, and habitually despondent temperament. There was no history or present evidences of any disease of important thoracic or abdominal organs. The pelvic viscera were found to be entirely normal in size and position. The os uteri was rather small, but of virginal shape, and free from redness or erosion.

On July 9, I administered ether, and curetted the uterine cavity. A few fungous granulations were removed, and an application made of Churchill's iodine solution. This latter was repeated every four to seven days. For about three months menstruation appeared at intervals of four or five weeks, rather profusely, and lasting from seven to ten days. Then the inter-hæmorrhagic periods became shorter—about three weeks. During the spring of 1885, the intervals were about two weeks; once, only nine days intervened. In the early part of 1886, the flow was more irregular, recurring every three to six weeks. In July, however, it appeared after an interval of two weeks and lasted three weeks, not profusely but constantly. In August following, I again used the curette, without any result. Nothing was removed, and no change was produced in the symptoms. In June, 1887, the same operation was followed by a like negative result. A month later, my connection with the case ceased. During the time of my attendance

(which was not continuous, but interrupted sometimes for periods of several months) the treatment consisted in efforts to overcome habitual constipation, and the intra-uterine application of iodine, carbolic acid, a solution of ferric alum, etc. These applications were always preceded by the introduction of a No. 12 bougie. There were two unfavorable conditions present in this case which I could not obviate. The one was tight-waist dressing, and the other an insuperable objection to active exercise.

Within the past few days the husband of this patient called upon me and stated that the subsequent history of his wife presented no material change; that, at times, she seemed better, and then became worse again. She is now under the care of a prominent physician of this city, and is thought to be improving.

Case 2.—Mrs. E. D., placed herself under my care January 22, 1885. She was a Jewess, had been married three years, and was never pregnant. Menstruation began at 12, had never been distinctly regular, and for many years was rather scanty. During the past year, however, the discharge had recurred with greater frequency than ever before, the interval being less than four weeks, and it had become shorter and shorter, while at the same time, the quantity of discharge at each period had steadily increased. During the month immediately preceding my first interview with the patient, there had been three attacks of flowing.

In personal appearance, this patient was noticeable and rather peculiar. She was of medium height, and much too stout to be termed plump. She had the very dark and abundant hair which is characteristic of so many of her race, and there was a marked growth of hair upon her upper lip, on her face from the temporal regions to the chin, and on her neck.

Interrogation failed to elicit any evidence whatever of cardiac, pulmonary, hepatic or renal disorder. The patient ate well, slept well, and felt well. She was only annoyed by the frequency of the bloody flow. A pelvic examination revealed no abnormal condition, position, or shape of any of the organs. The single disordered symptom discoverable consisted in a discharge of dark blood which was seen slowly oozing from the os uteri. The introduction of the sound was easily accomplished, and was followed by a rather profuse flow of redder blood.

Two days later, under ether anæsthesia, the cervical canal was moderately dilated, and the interior of the uterus curetted. A small number of fungosities were removed and the uterine cavity swabbed with Churchill's iodine solution. On February 20, a bloody discharge appeared, and continued more or less profusely until March 14—three weeks. I then made an application of Monsel's solution of iron. The discharge ceased

for two days; it then reappeared and lasted to March 23—seven days. I again dilated the cervical canal and passed in a curette, without removing anything, and applied the iodine solution. There was no discharge for eight days subsequently. Then a flow which seemed like that of menstruation appeared. It lasted five days, ceased two days, reappeared and continued with occasional intervals of one or two days until April 23, when it became profuse and seemed like menstruation again. After a few days the flow diminished, but a reddish-tinged oozing continued until a more profuse flow indicated the return of catamenial discharge. On November 9, the patient reported that the longest time she had been free from bloody discharge was four days.

During all that time I had availed myself of frequent opportunities of making local applications of iodine, carbolic acid, Monsel's solution, alum, fused nitrate of silver, etc. Also, I had given quinine, ergot and viburnum, and on several occasions I had gently dilated the cervical canal, and tried to get away something with the dull curette.

No especial change was noticed in the symptoms in the summer of 1886, during which time all treatment was suspended. In January, 1887, the patient informed me that once only she was free from hæmorrhage for a period of three weeks. Treatment was then resumed. I introduced a tupelo tent and followed the dilatation by a very thorough application of iodized phenol. This was repeated at intervals of five to seven days for several weeks. There was no improvement. Then, I tried nitrate of silver for awhile, but the hæmorrhage continued. In the summer of 1887, the patient went to Europe with her husband, and for a few weeks while there she was somewhat better. In the following autumn, however, after her return, the hæmorrhage was as constant as before. On December 23, I dilated the uterine canal mechanically under anæsthesia, and removed two large granulations. She died one week later of peritonitis.

Case 3.—Mrs. W. L., æt. 35 years, had been married seven years, and had two children, the younger being 16 months old. I saw her on September 5, 1885. When the baby was 10 months old, menstruation appeared, and for two periods was quite normal, lasting four days. The third came a week too soon and lasted two weeks. After an interval of two weeks it again appeared, and when it had persisted ten days, necessitating two or more napkins daily, she applied for relief. She then showed effects of the loss in pallor, impaired strength, and enfeebled digestion. The baby was weaned, and the patient took strychnia, quinine, and arsenic. I found no pelvic cause for the hæmorrhage unless it might have been a slight degree of subinvolution. The uterus was freely movable, in normal position, free from

erosion, and there was no swelling or undue tenderness in the region of the ovaries, tubes, or broad ligaments. Constipation was present, and I prescribed salines and a regulated nutritious diet. Subsequently, the hæmorrhage continuing more or less constantly, although not profusely, other means were tried, many of them rather empirically. They included ergot, hydrastis, viburnum—all without perceptible effect. Then I dilated the cervical canal and explored the interior of the uterus with finger and curette. Nothing was found.

After about eight months, the patient placed herself under the care of an electrician, who treated her for nearly six months. Then she went to Cincinnati, and remained several months under the care of a distinguished gynecologist. She returned to me in January last, and stated that she had not at any time been more than ten days without a bloody discharge, and rarely more than three days. The menstrual periods were distinguishable by the more profuse flow which marked their presence, and they were fairly regular.

Once more I dilated the cervix under etherization, and drew a curette over every part of the intra-uterine surface, taking especial care to get the instrument into the cornual depressions. No tissue was brought away, and very little blood. I subsequently made internal applications of tinct. iodine, tannin, Monsel's solution, and once, at the close of what seemed to be a menstrual period, I applied nitric acid. While, at times, there was a diminution of the discharge, the improvement was only temporary, and in July last she again passed from my care.

Case 4.—The notes of the following case were kindly furnished me by Dr. J. H. Stowell. M. M., a single woman, 25 years of age, was born in Canada. Menstruation began at 12, and was quite regular until she was 19; then the flow became prolonged, lasting sometimes five or six weeks. This was followed by regularity, both in quantity and times of recurrence for a few months, when menorrhagia again appeared. At the age of 22 she was examined by a physician at Ottawa, who curetted the uterus, with what immediate result is not known, but the patient was free from all sanguineous discharge during a period of three months. Menstruation then returned and was regular and in every respect normal for the following four months. Becoming menorrhagic again the curetting was repeated, with the same temporarily beneficial results as before. Again, after a few months, the flow became profuse and a third curetting was made six months after the second, the latter time without apparent benefit.

The patient removed to this city and came under the care of Dr. Stowell, with whom I saw her in the early part of the current year. On January 21st, after thorough dilatation of the uterine

canal, I curetted very carefully, removing a small number of granulations. The operation was followed by the application of Churchill's iodine. For two months subsequently there was no bloody discharge. Then it reappeared, and Dr. Stowell informs me that he has continued to treat the symptom in a routine manner locally and generally, but without satisfactory result. Latterly this case presents a curious feature: the flow is very profuse every alternate month, and normal the other. Within the past fortnight this patient has been placed under the care of a gentleman skilled in the application of electricity, in the hope that she may be benefited by that remedy.

It will be observed that in the foregoing cases there were some features common to them all. Thus, in none of them did the hæmorrhage take the form of rapid, profuse flow suddenly exhausting the patient, as we not infrequently notice in cases which the discharge depends upon an abortion, or upon the presence of cancer or fibroid neoplasm. On the contrary, the evil effects produced were the result rather of the persistence of the discharge covering long periods of time. Again, in none of them was there evidence of disease of the lungs, heart, liver, kidneys, or other important organs causing a depraved condition of the blood or pelvic plethora. In none of them was there a history of hæmatocele, pelvic inflammation, or detectable pelvic swelling. In none of them was there any displacement or flexion of the uterus, or dislocation of the ovary. Indeed, in none of them could I determine a sufficient local or systemic cause. I have thought that possibly some such cause might exist in disordered condition of the Fallopian tubes or pelvic cellular tissue not ascertainable by our present known methods of investigation.

Being aware of the influence of malarial poison in producing congestion of the abdominal and pelvic viscera, including perhaps the mucous membranes, I have not failed to take this possible etiological factor into consideration and to make careful inquiry with the view of ascertaining its existence. The result in each case was wholly negative.

My object in reporting these cases is twofold: first, to ascertain whether others besides myself have met with similar baffling experiences; and, secondly, to obtain such practical hints in the treatment of such cases as may hereafter lessen the number in which we have to acknowledge defeat.

DR. D. T. NELSON: I do not know that I can say very much to assist the doctor in the treatment of his cases, for that is evidently what is intended and what we should all need under the circumstances. I cannot say that I have seen just such cases; I only regret that the doctor was not able to follow the cases even longer. One died; I would like to know if there was any

post-mortem examination. Perhaps the cause of death was such that it would hardly be satisfactory if there were a post-mortem. It seems to me that the only way we can arrive at a conclusion as to the nature of the disease and consequently the proper method of treatment, is to follow them longer. One case that I have seen—and there is but one that seems to me at all like these the doctor has reported—I was fortunate enough to see one or two years after a somewhat similar experience by other gentlemen, in which nothing was reported to have been found; in which there was curetting; but as I saw it subsequently there was plain evidence of fibroid tumor. Perhaps if these cases were seen longer or examined post-mortem there would be a satisfactory explanation of the persistence of the hæmorrhage. I think one of the small single or multiple fibroid tumors, which cannot be detected by the most skilful finger, or by any means of examination that we have at present, are likely to produce such results, and I believe they may lie dormant for a longer period than these cases have been observed; I am quite sure that I have seen them—and eventually, perhaps of their own nature, develop so as to be found; perhaps from some exciting cause other than that. There is another cause, it seems to me, for these hæmorrhages, concerning which I can hardly speak rightly. I believe the writer of the paper is better able than any of us to talk on that subject, and I hope he will give us some information in that direction when he closes his remarks; namely, will disease of the Fallopian tubes produce hæmorrhage from the uterus? I do not mean by that a salpingitis that will fill the tube with pus or serum, and be so large as to be easily felt, but actual disease of the mucous membrane, perhaps not extending much deeper than the mucous membrane, but capable of producing a continuous hæmorrhage. I confess to being unable to point out a case in my experience, or in that of others, that is plain, but I simply throw it out as a hint, as a possible explanation, for further examination. Perhaps it is not a parallel case, and yet it seems to me that there is a similar cause. A woman after menstruation, if you please, a week after the cessation of the menstrual period, takes cold, has a slight cough, has a traumatism or some slight disturbance in the pelvis giving pain and other evidences of inflammation; we all know that one of the most common symptoms attending upon the pain, etc., is hæmorrhage from the uterus. Not a severe one, perhaps, but a slight flow. You may say that means congestion of the whole pelvic viscera. True, it ordinarily does. But what does produce the uterine flow? Is it the uterus alone, is it the ovaries alone, is it the broad ligaments only, is it the Fallopian tubes and the uterus, is it the Fallopian tubes only? It does seem to me in some instances that it is not only the uterus, not only

the broad ligaments and vascular structures about the uterus; but that the Fallopian tubes and ovaries have very much to do with this condition. But the reader of the paper is able to enlighten us more than any one else in that direction. I believe if these cases were observed long enough, we should find a congestion of the uterus produced by a fibroma or sarcoma, or disease of the Fallopian tubes or ovaries, and pre-existing disease of the ovaries and tubes produce hyperemia of the uterus that favors the development of fibroma and sarcoma.

DR. C. T. PARKES: I should like to mention a report I have recently read in one of the foreign journals that applies somewhat to this question. A case was reported in which all these remedies were used; curetting and intra-uterine dilatation, and finally the surgeon concluded he would make an abdominal section. After making the section he found what he reports as a cavernous angioma of one of the ovaries. It was removed and the case cured.

DR. ROBERT TILLEY: It is my special interest in the last case reported by Dr. Jackson that has given me the honor being present this evening. I would like to correct a single remark towards the close of the case, namely, that the patient was placed under a gentleman skilled in electricity. The patient came to me for general counsel as to what would be the best course for her to adopt under the circumstances. I advised her to get letters from the doctors who had been in attendance on her and to send them to her parents, with the supposition that they would consult with the family physician who had previously curetted the uterus. Meanwhile, she was flowing considerably, and asked me if I would not give her such general instructions as would enable her, at any rate, to be freed from a certain amount of anxiety which she would necessarily be under apart from that. I said that under those conditions I would, with the understanding that if any serious symptoms developed I should not think of taking charge of the case. At this time I considered the question of recommending them to try the application of electricity to the interior of the uterus, and I thought seriously of recommending it strongly; but looking back upon my own experience with reference to electricity, I did not feel at all confident under the very indefinite conditions which the case presented, and I meanwhile thought it desirable to use such hæmostatics internally as would be suggested. In looking over the field, I concluded that without any doubt whatever ergot and iron had been used as fully as it would be desirable to use them, and the first thing I thought of was the common remedy of vinegar. I administered the vinegar for two or three days without any advantage whatever, internally; I then descended, perhaps I might say, to the use of hamamelis, and in order to get the

genuine article, I recommended Pond's extract. This did not have any influence at all. There seemed, however, to be a sort of periodic character about it, and I used quinine for a few days, without any advantage; and, in fact, it seemed to me from the report that the flow became greater. Then I resorted to turpentine, 10-drop doses in an emulsion, and after she had taken two doses of this turpentine there was a sensation of strangury and it was dropped for one day. Information was given me that with that strangury there was a manifest diminution of the flow. I concluded that it was fair to infer that the organs in the pelvic regions were, in all probability, susceptible to the turpentine, and I recommended its use in smaller doses and added to it some camphor water. She continued to use the turpentine, and the flow continued to diminish; there was no longer any sensation of strangury after she had used the camphor-water in conjunction with it, and on Saturday last I was informed that the flow had ceased altogether. She called at my office and I found that the pulse, which had previously been 100, was reduced, to 80, and the peculiar sensation of palpitation which she had complained of as existing before was almost completely removed, and she was feeling in every way a good deal better. I heard from her again on Tuesday; she was then on her way to one of the suburbs, with the understanding that I should hear from her again to-morrow. I feel satisfied that the flow has not returned, otherwise I should have heard. In looking over the case in the first instance, I remembered that some of my brother ophthalmologists are curing everything, from epilepsy to corns, with glasses or tenotomy of the internal recti, and I examined the eyes to see if I could find anything of interest, but I could not see anything worthy of attention. I also examined the blood microscopically to see if there was any peculiarity there, but could find none. The use of the turpentine seems to have had the special advantages of securing at any rate, a temporary cessation of the hæmorrhage.

DR. A. REEVES JACKSON: The existence of fibroids as a probable cause in some of these cases, as suggested by Dr. Nelson, had occurred to me. The question of possible pregnancy also arose, and I made such inquiries and investigations as I hoped would lead to a settlement of the latter point especially. We know that in fibroid growths of the uterus hæmorrhage becomes by-and-by a prominent symptom, and usually it is the one which first calls the attention of the patient to her condition; and in these cases we usually have no trouble in the diagnosis where there is present either a polypus or a fibroid of sufficient size to alter the shape of the uterus or to be felt within the cavity of the organ. I can conceive how a very small fibroid, incapable of detection by ordinary methods and ordinary skilled hands and

fingers, might produce hæmorrhage, but would it yield to the medical treatment of a fibroid? If it did not, we should hardly feel justified in making a laparotomy to discover the existence of a fibroid that presented no other evidence of its existence than hæmorrhage. It is true that patients nowadays submit to laparotomy when urged to do so; yet the one who urges should have some kind of objective reason upon which to base his advice. In none of these cases could I detect any change whatever in the shape of the uterus. The fact is that when we find a fibroid as the cause of hæmorrhage it is already surgical. It is large enough sometimes to have existed, with their slow rate of growth, for many years, and yet hæmorrhage has probably not been present until the latest part of the history.

Disease of the Fallopian tubes I have no doubt is a frequent cause of persistent uterine hæmorrhage. Primarily, the blood may have its source in the tube; later, by overaction—by the mere bleeding—there is produced manifest disease of the endometrium, as in the case last cited. But, granting this, inasmuch as we can only reach the uterine lining anyhow by our topical treatment, even if we have a suspicion that there may be tubal disease, it does not aid us in deciding what to do for it. The ethics of the condition are in doubt.

Allusion has been made to the death of the third patient. She died of peritonitis following the operation. I have reported it in order to call attention to the danger of what is usually considered a simple and safe operation. In this case the operation was done under the strictest antiseptic precautions; every care was taken to avoid any danger from that source. Unfortunately, I was obliged to leave the city shortly after the operation, leaving the patient in an unsatisfactory condition, temperature 102°, rapid pulse, red cheeks, and evident high constitutional excitement. On my return I found her still worse, and shortly afterwards she died of peritonitis, whether septic or not I do not know. The dilatation was mechanical; was not made by tents, which I consider a dangerous method of treatment.

I did not mention in the paper an important fact in the subsequent history of the last case. It was this: During the last examination I detected a distinct swelling at the side of the uterus apparently in the Fallopian tube. Then I suggested that if the patient did not get better here was a reason why we might properly make a laparotomy—not for the hæmorrhage, but for the swelling which was possibly the cause of it. The curetting on three occasions certainly had a very satisfactory effect. On one occasion, for four months subsequent to the operation the patient had no bloody discharge whatever, natural or unnatural, which would seem to indicate that, at that time at least, the cause of the hæmorrhage was in the

uterus, and that the effect of the remedies applied more thoroughly after the dilatation had a controlling influence for a long time. This is very satisfactory to a patient who has been having a profuse or prolonged hæmorrhage. This patient was under the care of excellent men in Canada who, so far as I know, never detected any swelling, and I infer from this fact that the latter symptoms were of comparatively recent appearance.

The nitric acid, which I applied in one case, I formerly used a great deal more than I do now. My method of using it is that recommended by Athill some years ago. The uterus is previously dilated, and when sufficiently open, the pure nitric acid is passed into the uterine cavity on an ordinary cotton-wrapped applicator. I place the patient on her back, introduce a perineal depressor, seize the anterior lip of the uterus, draw the organ down, and surround it entirely with cotton which has been dipped in a solution of bicarbonate of soda. The applicator is dipped into the acid, passed into the uterine cavity, and held there for a few minutes. It is then withdrawn and the vagina syringed until all fuming ceases. Then I remove the tampons from about the cervix, and another tampon saturated in glycerine is placed over the os uteri. Such was the method used in this case. The nitrate of silver I applied in this way: A few grains of the crystal are melted in the bottom of a test-tube. A silver uterine probe is dipped into the fluid and withdrawn a few times, until a bead is formed on the end of the instrument the size of a grain of rice. This is passed through a speculum up into the interior of the uterus and held there for a few minutes, and slowly drawn out so as to come in contact with the surrounding membrane. This method has been recommended as very effective in chronic cases of menorrhagia. The hydrastis I have used a good deal. Loewenthal has reported several cases in which he had used hydrastis for preventing menstruation absolutely in persons to whom it was injurious; chlorotic and anæmic patients, he affirms, have been effectually cured by the use of hydrastis, given so as to absolutely obliterate the function of menstruation. I have never used it for this purpose, but I believe in the principle. I do not believe menstruation, of itself, does any woman any good.

Prof. Earle asks about the relative frequency of inflammation before and after the advent of antiseptics. I am hardly prepared to answer that question. If the theory of septic inflammation is correct, all diseases resulting from the ordinary operations ought to be less if antiseptic precautions are used. I remember but three cases of ordinary operations in which death followed. Inflammation was present in all of them, and it may have been of a septic character, and so may it have been in this last case which I have related. But the patient complained of pain immediately after

the operation, and she was never free from pain until the time of her death, six days later.

Ergot I have not found to be beneficial in any condition of the uterus involving hæmorrhage, unless it be subinvolution during its soft stage where the uterus is large and heavy. In those cases I believe ergot is an excellent remedy. That condition was not present in any of these cases. Whether, in one of them, the cessation of menstruation for two months indicated pregnancy, I do not know, but there was no other evidence of it; there was no fœtus observed, nor was the history that of an early abortion, so that the single symptom of absent menstruation in a woman who was irregular at times was not so significant as it might be under other circumstances.

In the case stated by Dr. Parkes, the disease of the ovary was found, as I understand, after all other theories and much treatment had been exhausted, and it was supposed that there *might* be some disease *somewhere* in the pelvis which could only be detected and possibly removed by laparotomy. But it is doubtful whether this would be a safe rule to follow even when all technical means and all known remedies for persistent hæmorrhage have failed. If the woman is not endangered by the hæmorrhage would it be right to subject her to any risk of her life for a *possible* cure? If life were jeopardized there could, of course, be no question as to the propriety of laparotomy. This, however, was not the condition in any of the cases which I have related.

Dr. Addison H. Foster reported *A Case of Hydræmnion*.

Dr. Edward B. Weston read a paper on *A New Procedure in Cases of Anticipated Complete Rupture of the Perineum*.

DR. BAYARD HOLMES presented specimens of CULTURES OF BACTERIA FROM THE URINE OF A CASE OF NEPHRITIS AFTER SCARLET FEVER.

The specimens are of such a character that, while they may not be in themselves particularly interesting, I hope they are of sufficient account, in connection with the paper I wish to present at the next meeting, to deserve a moment's attention. My paper is upon the subject of "Secondary Infection in Acute Infectious Diseases of Children." One of the diseases which I treat of is scarlet fever, and as the complication that is perhaps the most alarming and serious in scarlet fever is nephritis, I have taken a good deal of pains in studying the subject. Through the kindness of a neighbor physician I had a chance to examine the urine of a case of nephritis after scarlatina, and to make a few cultures from it. On the first day that any symptom of nephritis was noticed there was a very large amount of blood in the urine, and I took pains to collect some of it in a perfectly sterilized flask after the first part had passed away, so as to get it in as nearly a

sterile condition as possible. I took it home and planted the sediment in a few tubes of gelatin. The gelatin in a very short time showed small colonies growing along the track of the needle. From isolated colonies, the second series of tubes was planted, and they begin to show a characteristic growth. Only one of the first series of six tubes remains sterile, and only two of them show any signs of mixed infection. The remaining three tubes are evidently pure cultures of the *Streptococcus pyogenes* of Rosenbach. This is the microbe that produces the enlargement of the cervical lymphatics early in scarlet fever. I present these specimens because they are short-lived, and in the hope that I may be afforded the opportunity of examining, under favorable circumstances, the urine of a few boys suffering from this complication.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Value of Strophanthus and Digitalis—Sulfonyl and Chloral—Cardiac Ectopia—Pathogenesis and Treatment of Tetanus—Menstruation after Removal of the Ovaries.

The results from a long discussion that has been going on at the Academy of Medicine on the therapeutic value of strophanthus, digitalis and other cardiac remedies seem to show that, as regards strophanthus, its effects are analogous to those of digitalis. Professor Germain Sée prefers to the preparations made with the entire plant the active element of those plants, such as the alkaloids, the glucosides and the salts which are of a definite form and will always, in the same dose, produce identical effects. He therefore prefers strophanthin to strophanthus, and digitaline to digitalis, and as regards their action on the heart he showed that strophanthus determines only a feeble diuresis, and that it acts but little on the dyspnoea of affections of the heart. There are three or four other cardiac medicaments each of which responds to a particular indication. If the physician wishes to act directly on the heart, he may choose between digitalis, the salts of potash, sparteine and strophanthus, but digitalis should be preferred, as it is the most diuretic. Dr. Laborde, Chef of the Laboratory of the Faculty of Medicine, after a series of experiments conducted by him, demonstrated the superiority of the active elements, glucosides or alkaloids, over the entire plant. The former, in medicine, he said, represented progress, the latter represented routine. In employing substances chemically defined, the physician substitutes the formula to the receipt, as expressed by Dumas. He studied various pharmaceutical prep-

arations and found enormous differences in the proportion of the active substance contained in tinctures and extracts. He therefore agrees with Professor Sée that strophanthin should be preferred to strophanthus, and digitaline to digitalis. As regards the physiological properties of these drugs, Dr. Laborde submitted to the Academy sphygmographic tracings which showed that strophanthin augments the force of the heart with a very great rapidity and intensity, but causing at the same time very irregular pulsations. On the contrary, digitalis acts more slowly, but it produces pulsations of the heart very regular, sparteine occupying an intermediate position between digitaline and strophanthin.

At a recent meeting of the Société de Thérapeutique, Dr. Huchard raised the question as to the superiority of sulfonal over chloral as a hypnotic. He said he had tried the remedy in cases of phthisis, cardiac affections, subacute articular rheumatism, neuralgia, etc., in which the patients were worn by sleepless nights, but with the most complete non-success. If the German physicians had obtained more favorable results, it was because they generally prescribed it in cases of nervous insomnia. He therefore believes that it is in these conditions particularly that the drug would most frequently succeed. He moreover found that, on the one hand, the sleep produced by sulfonal may be prolonged a much longer time than would be desired. He had seen a patient that had taken the drug sleep for nearly two days. On the other hand, if it determine sometimes a calm sleep, at others it causes dreams, nightmares. Frequently, on awaking, the patient complains of great fatigue, extreme lassitude accompanied with giddiness, or even a certain degree of titubation which resembles that of a man in a state of intoxication. Dr. Huchard does not believe sulfonal to be superior to chloral, its only advantage being that it possesses a prolonged action.

At the Société Médicale des Hôpitaux Dr. Huchard presented a patient, æt. 52 years, affected with a cardiac ectopia characterized by an epigastric tumor, ovoid in shape, painless, in which distinct pulsations are felt. The sphygmographic tracings of these pulsations are the normal cardiographic tracings. The heart does not beat at its normal position, but at the level of this tumor.

In the *Bulletin Générale de Thérapeutique*, Dr. Guelpa published a note on the pathogeny and treatment of tetanus, and gives as the result of a series of experimental observations the following conclusions: 1. That tetanus is an infectious disease. 2. That although the horse is most liable to the disease, it is not of equine origin. The evidence points, though not conclusively, to a telluric origin, and in any case it is certainly due to the presence of microbes. 3. The symptoms are not due to the presence of the microbes themselves, but to the poisonous effect of their secre-

tions. 4. The first manifestations are limited to the seat of injury, it is only in later stages, and even then very rarely, that the microbes invade the organism as a whole. 5. The treatment should be directed to the destruction of the site of the bacillary infection, to the elimination of the products of bacillary activity, and to calming the nervous system. The first indication is fulfilled by incisions and scraping and free removal of tissue, washing out the wounds with a 5 to 10 per 1,000 solution of corrosive sublimate, or preferably cauterizing them with nitric or sulphuric acid. Elimination is produced by stimulating the excretory organs by means of purgatives, diuretics and diaphoretics, and giving chloral to procure rest.

At the Société de Chirurgie, Dr. Monod lately communicated a note from Dr. Macario, of Nice, on the persistence of the menses after the ablation of the ovaries. The note referred to a woman who had been operated on by Lawson Tait, who was summoned thither for the purpose. This case recalls those related by Drs. Terrillon and Quenu at previous meetings of the Society. A. B.

DOMESTIC CORRESPONDENCE.

Spinal Injuries from Railroad Accidents.

Dear Sir:—I have read the article of Drs. Barry and Andrews relating to spinal injuries and have also read the criticism thereon by Dr. S. V. Clevenger, entitled "Spinal Concussion." Will Dr. Clevenger explain why it is that about twelve out of fifteen cases of alleged spinal injury from railroad accidents; falling on sidewalks, or factory accidents; or any accident where a corporation may be sued, get well after the claim has been settled or a jury has found a large verdict in their favor? Is it true that because courts permit such verdicts to stand, it is satisfactory proof that the injury existed? The lawyers tell us that juries are judges of the fact, and that the courts will approve verdicts if there has been no legal error in the trial. That large verdicts are given can hardly be accepted by intelligent surgeons as positive proof that the claimant was suffering from injury. I have seen, and had under my charge, during the past twenty years, very many cases of this class—and, my experience and observation justify me in stating that any honest case of railroad injury, sidewalk, or mill injury, can always be fairly adjusted without the aid of courts, lawyers, or "spine doctors." The cases of excessive amounts railroads have been forced to pay, cited by Drs. Barry and Andrews cover but a small portion of the amounts railroad companies pay out of court, through fear of a greater robbing in court through the aid of doctors who on vague theories of concussion of the spinal

cord. The lawyers who operate in such cases know the surgeons who will join them in a railroad or corporation suit—and they certainly are as numerous as abortionists. Corporations often submit to blackmail to avoid legalized robbery.

If any one having any interest in this subject and desirous to know the truth, will keep track of all these cases after settlement is made or judgment paid, he will learn that twelve out of fifteen rapidly recover—often so rapidly as to alarm the "calamity lawyer" and the "concussion doctor" who aided at recovering the "swag." That is twelve out of fifteen of these spinal cases are pure fraud and malingering. And I further assert that if a surgeon is honest, and not too ignorant, he can detect and expose nine out of ten cases when symptoms are simulated. I can refer to a case of a strong healthy man, now fring in Missouri, who received a large sum from a railroad company because two or three reputable back-bone doctors said it was impossible that he could ever walk again. This is not a rare case. I can refer to other cases where friends who honestly sympathize with the "poor cripple" on the witness stand trying to get his rights from a "soulless corporation," became, after judgment was paid, acquainted with the fraud and convinced that their sympathy led them into error, that the "cripple" with the damage money in his pocket had to emigrate to escape the indignation of former friends.

The writer, over a year or two ago, was called as a witness in a case where a man sued a railroad company for alleged injuries he claimed to have received in stepping off an unprotected station platform. Three or four surgeons testified that nothing whatever ailed the man except rheumatism, with which disease he admitted he had been suffering for years, other surgeons testified that if the symptoms and pain existed as stated by the claimant, he was suffering from concussion of the spinal cord. Of course it could not be shown that the symptoms did not exist as claimed—and the law presuming every one to be honest—there was some testimony upon which to found a verdict, and the eager jury promptly found a verdict against the railroad company. The Judge expressed himself as believing the verdict unjust, but as there was testimony upon which to base it and no material error on the trial, he followed the "rules of practice," as he said, and rendered judgment. The smart lawyer put \$1,000 in his pocket, the claimant pocketed \$2,500 and chuckled over the success of the scheme. This same spine got well within two months, and the surgeons who testified that recovery was impossible admit their error, but that does not remedy the wrong done by their aid. Railroad surgeons ought to be given credit for as much honesty as others, and if the public knew how many cases of injury are settled out of court upon the advice of

railroad surgeons, I think their honesty and fairness would be admitted. The railroad spine, sidewalk injury and malpractice charges are all alike; and in all these cases it is a disgrace to the medical profession that there are doctors in every community ready to become partisan and go into court to support malingerers, there may be two reasons for this, ignorance and personal pride, and before juries the testimony of one doctor is as good as another. These fraudulent cases are brought only against corporations, thus making the general prejudice against all corporations available to aid the careless ignorant testimony of "experts." I have never seen, nor do I ever expect to see, an honest case of "railroad spine" or sidewalk injury in court upon the question of whether or not an injury was sustained, where there is actual injury of any material consequence there is a controversy upon that point, but all physicians agree. The railroad companies and all the large corporations employ the best medical and legal talent and abide by their decisions, be they adverse or favorable to them.

That unjust verdicts are rendered by juries, and courts compelled to sustain them because there was some testimony to support them, is perhaps as much the fault of our profession as of the ability of unscrupulous lawyers to use the law and insure prejudice against corporations to accomplish *legal* robbery. And yet "medical colleges" proceed with the work of selling the degree of M.D. for a cash consideration only.

H. JUDD, M.D.

Galesburg, Ill.

BOOK REVIEWS.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE of the United States for the Fiscal Year 1888. 8vo, pp. 406. Washington: Government Printing Office. 1888.

This Report opens with some statistical statements in regard to relief furnished by the Marine-Hospital Service, followed by several pages of circular matter in regard to quarantine service. The arrangements for maritime quarantine are now said to be very good. Two dozen pages are devoted to a consideration of the late epidemic of yellow fever in Florida, and one dozen pages to the late National Board of Health, and to propositions that have been made to rehabilitate that organization. The National Board of Health being practically extinct, and being and having been in no way connected with the Marine-Hospital Service, it may be asked why a dozen pages should be printed in this Report, apparently for the purpose of laying a ghost. If so many words are required to prove that a deceased body

is deceased, and should remain in that condition, one has grave doubts as to the validity of the arguments used, especially when they are characterized by warmth rather than moderation.

There are some papers in this Report that make it one of unusual interest. Dr. John Guit ras writes a very valuable paper on "Some Observations on the Natural History of Epidemics of Yellow Fever, based on a Study of the Mortality Statistics of the City of Key West; also a Plea in Favor of a continued Investigation of this Disease by the Government of the United States." This is one of the most valuable of the many excellent contributions Dr. Guit ras has made to American medical literature. The Report includes also three contributions to the subject of the "Food Supply of Seamen," by Dr. P. H. Bailhache, Henry W. Sawtelle, and Chas. B. Goldsborough. Dr. Sawtelle's contribution includes a report of scurvy treated at San Francisco during the seventeen years ending June 30, 1888.

Among the "selected cases from hospital practice," are some interesting reports. Surgeon W. H. Long reports fourteen operations for the radical cure of hernia. Apparent permanent cure was obtained in thirteen cases. Drainage tubes and antiseptic dressings were used in all these cases. "The danger to life seems very small, there being not even an expected amount of constitutional disturbance."

Dr. Long reports also a case of ankylosis of lower jaw relieved by making a false joint. A diagram of the operation is given. The patient was discharged cured in twenty-two days, with a joint that worked perfectly, and with the ability to masticate all kinds of food.

Dr. Long's third report is on a case of œdema glottidis, with apparent death, relieved by laryngotomy. Under this report is a note on a case of death from œdema glottidis due to quinsy, making the second case of œdema of the glottis from quinsy at the Marine-Hospital at Detroit in one year.

Surgeon Henry W. Sawtelle reports three cases. The first was one of reamputation of the left leg at the superior third for ulcer and neuralgia of the stump; complicated by pneumonia and py mia; followed by recovery. The second case was one of cerebral h morrhage, with right hemiplegia and aphasia, from multiple injury. After several operations for the relief of pressure, the patient recovered. The third case was one of compound comminuted fracture of both bones of the left leg, with lacerated wound of the face.

Passed Assistant Surgeon W. A. Wheeler reports a case of lacerated wound of the knee, with rupture of the internal lateral ligament. The patient recovered with a fairly good knee.

Passed Assistant Surgeon Charles E. Banks has some valuable statistical material in regard to

syphilis, pneumonia, and typhoid fever. In regard to syphilis, from 1877 to 1885, inclusive, the Marine-Hospital service treated 45,118 cases of syphilis, of which 20,415 were of the primary lesion, and 24,073 of the secondary type. Of the 20,415 primary cases, 3,637 were classified as hard chancre, equivalent to 17.8 per cent., and 16,778, or 82.2 per cent., were soft chancres; thus making the proportion of hard to soft chancres a little less than 1 to 5. Puch , whose statistics were based on 10,000 chancres, found 1 indurated to 4 simple chancres. The tables given show a grand ratio of 14.8 cases of syphilis, primary and secondary, to the hundred of all classes treated.

In regard to pneumonia, the reports of the service since 1872, exclusive of three years, show a total of 3,011 cases, and 496 deaths, on a mortality of 16 per cent. The records of the service since 1872, except three years, show a total of 2,503 cases of typhoid fever, and 374 deaths or 14.9 per cent.

Passed Assistant Surgeon S. T. Armstrong reports six cases. The first case was one in which necrosed bone was removed from the tibia and clavicle, the necrosed portions having been present for many years without causing irritation.

Dr. Armstrong's second case was one of malformation of the hand, in which an unsuccessful operation was made for the separation of webbed fingers. His third case was one of fracture of the ischium, with recovery. The fourth case was one of py mia consequent upon a wound of the toe, with death, illustrating the necessity of antiseptics. Dr. Armstrong reports also a case of cure of bunion by resecting the first metatarsal bone. His final contribution to the Report is a case of excision of the tunica vaginalis for the cure of hydrocele.

Passed Assistant Surgeon P. C. Kalloch reports a very interesting case of recovery from sacculated aneurism of the abdominal aorta.

Passed Assistant Surgeon P. M. Carrington reports a case of recovery after rupture of the quadriceps extensor femoris.

Two interesting cases of enteric fever are reported by Assistant Surgeon F. C. Heath, and Acting Assistant Surgeon T. M. Holmes, of Rome, Ga., reports a case of multiple neuritis.

The volume closes with a series of reports of fatal cases, with autopsies.

DR. KARL FRIEDRICH WERNER NASSE, head physician of the Rhenish Provincial Lunatic Asylum and honorary professor in the University of Bonn, has just died at Bonn. He was the author of "Proposals for Legislation for the Treatment of the Insane, with special reference to Prussia," and of numerous essays on Diseases of the Mind in the medical periodicals of Rhenish Prussia.

MISCELLANY.

THE ILLINOIS DENTIST.—The Dental Society, of Chicago, through C. Stoddard Smith, Chairman of a Special Committee, has formulated a bill, to which the approval of members is solicited, with the intention of at once presenting it to the Legislature. It provides for the appointment by the Governor of a Board of Examiners, five in number, and for the examination and registration of all dentists. The Board is to be supported by the fees for registration and examination, the latter being \$10 and a license fee \$5, while the registration fee is \$1. Penalties of \$25 to \$50 for the first offense, \$50 to \$100 for the second, and not less than \$100 nor more than \$250 for the third are provided, each operation to constitute a separate offense and one-half the penalty to go to the Board and the other to the school fund. It also provides that all dentists holding the certificate of the Board shall be exempt from jury service.—*Chicago Times*.

DR. WILLIAM GILMAN BRECK, of Springfield, Mass., died suddenly, of apoplexy, on January, 23, 1889. He was born in Franklin Co., Vt., on November 14, 1818. He was senior surgeon of the Springfield Hospital, had been President of the Hampden Co. Medical Society, and was a member of the American Medical Association.

DR. E. B. BRANDT, of Mechanicsburgh, Pa., died on January 16, 1889, aged 60 years. He was one of the most prominent physicians in Southern Pennsylvania. He was graduated from Jefferson Medical College in 1845. He became a member of the American Medical Association in 1872.

THE Dominion Dental Journal, the first number of which has just appeared, is edited by W. George Beers, L.D.S., of Montreal, the co-editors being C. S. Chittenden, L.D.S., of Hamilton, Ont., and A. C. Cogswell, L.D.S., of Halifax, N. S. It is a monthly journal of 48 pages.

PROLONGED GESTATION.—Dr. W. H. Murray (Gala-shiels) writes: Mrs. S., aged 25, married five years, no family, consulted an Edinburgh gynecologist in January, 1888, and was told by him that her ovaries were diseased, and that she had better go to the hospital for treatment. Preferring to remain at home, she asked me to attend her. Rest in bed and the hot douche was all the treatment employed, my attendance ceasing on February 4th. On March 24th Mrs. S. stated to me that she had menstruated on February 12th, but she had not seen anything since. She complained of morning sickness and a feeling of *malaise*. The nipples were prominent, and there was a distinct areola around them, with enlarged mamillæ. I gave it as my opinion that she was pregnant and that, in all probability, it dated back to her last menstruation on February 12th. I heard nothing further of my patient until November 28th, when she sent for me, thinking she was in labor. Both the patient and nurse declared that she was having regular pains, recurring every ten minutes. On making a vaginal examination I could find no evidence of labor having set in, nor did I find any improvement on a subsequent visit in the afternoon, although she still declared she felt pains at regular intervals. A dose of opium and an assurance from me that the pains were not the right kind had the effect of settling the pains and putting her mind at rest. I called on the following day, and found my patient busy with her household duties and quite comfortable. On the afternoon of January 11th unmistakable labor pains set in, and by 9 P.M. the cervix was dilated to the size of a sixpence. Progress was slow, due to the presentation being occipitoposterior and the head a big one. The cervix was not half dilated by 8 P.M. on January 12th, though the membranes were still unruptured. Finding her strength becoming exhausted and no progress being made, I deliv-

ered with forceps. Unfortunately the infant (stillborn) was not weighed until the following day, when it scaled 7½ pounds and measures 19½ inches in length and 15½ inches round the shoulders.

The interest of the case lies in the length of the pregnancy. Did the woman become pregnant after her period, beginning February 12th, 1888, the verdict I gave on March 24th? If so, the period of gestation was eleven months almost. Allowing five days would bring the date of expected birth to November 19th, but instead it occurred on January 12th, 1889, or 330 days. Suppose the pregnancy took place before the next period, which would have occurred on March 12th, is it at all likely that I could have found such pronounced symptoms of pregnancy as I did on March 24th? Even admitting that the pregnancy did occur in March, still she carried the child *in utero* until January 12th following, that is to say, 294 days after I had pronounced her pregnant. In my own mind I am quite satisfied that this woman became pregnant after her February period, beginning on February 12th and ending on February 17th, so that she actually carried the child 330 days. In Taylor's *Medical Jurisprudence* I find that 330 days is the longest on record, and in none of the cases therein mentioned are the facts so clear as in this case of mine.

The dates I have taken from my daily visiting list and are absolutely correct. Dr. Burnett, who has acted as my assistant for the last eighteen months and who also saw the woman on March 24th, can verify every date given.—*British Medical Journal*.

HEALTH IN MICHIGAN, JANUARY, 1888.—For the month of January, 1889, compared with the preceding month the reports indicate that scarlet fever and neuralgia increased in prevalence.

Compared with the preceding month the temperature in the month of January, 1889, was slightly lower, the absolute humidity was slightly less, the relative humidity was slightly more, and the day and night ozone were less.

Compared with the average of the month of January in the three years, 1886-88, intermittent fever, consumption of lungs, inflammation of kidney, and pneumonia were less prevalent in January 1889.

For the month of January, 1889, compared with the average of corresponding months in the three years 1887-88, the temperature was much higher, the absolute humidity was more, the relative humidity was less, the day ozone and the night ozone were more.

Including reports by regular observers and others, diphtheria was reported present in Michigan in the month of January, 1889, at sixty places, scarlet fever at ninety-four places, typhoid fever at thirty-eight places, measles at eleven places, and small-pox at eleven places.

Reports from all sources show diphtheria at eight places more, scarlet fever at thirty-seven places more, typhoid fever at eight places more, measles at seven places more, and small-pox at five places more in the month of January, 1889, than in the preceding month.

A part of the increased prevalence of communicable diseases is doubtless only apparent, because a knowledge of a large number of outbreaks not otherwise reported, was obtained from the annual reports of health officers and clerks sent to this office during the month of January.

THE TOOTH IN THE APPLE.—Chandler Jones, a negro, is in jail for a burglary on Mr. Milton's store in Hazelhurst. The circumstances of his detection are peculiar, and the work was done by Detective E. A. Wilson, who had found nothing in the way of a clue except an apple, out of which two bites had been taken. He at once noticed that the two front teeth of the biter were not only irregular, but peculiar. He imagined that when the biter was a boy an old tooth remained in the gum caused a new tooth to grow one-sided. The apple was placed in water so as to prevent shrivelling, and, keeping his secret

to himself, Wilson went down to Baxley, where he knew a number of loafing negroes.

Walking into a store, he bought some apples, and biting one, said to a well-dressed negro who had attracted his attention: "Try one." The negro accepted the gift, and when he raised the apple to his mouth for a second bite the handcuffs were placed on his wrists. There never was a more astonished negro. He was under arrest so quickly that he was unable to offer any resistance. He gave his name as Chandler Jones, and was found to be wearing a suit of clothes and a watch and chain taken from Mr. Milton. Jones was taken to the store, where he showed how he obtained entrance on the night of the burglary, and how the first thing he saw was a barrel of apples. He picked up one, and after two bites laid it down on Mr. Milton's desk.—*Macon Telegraph* (Ga.).

PAMPHLETS RECEIVED.

Heitzmann, Carl, M.D., and Bödecker, C. F. W., D.D.S., M.D.S. *Contributions to the History of the Development of the Teeth*. Reprint from the Independent Practitioner.

Rohé, George H., M.D., Baltimore, Md. *Diseases of the Skin Associated with Disorders of the Female Sexual Organs*. Reprint from the Buffalo Medical and Surgical Journal, February, 1889.

Rohé, George H., M.D., Baltimore, Md. *On Corpulence, especially its Treatment by a Pure Milk Diet*. Reprint from Maryland Medical Journal.

Kellogg, J. H., M.D., Battle Creek, Mich. *Experimental Researches Respecting the Relation of Dress to Pelvic Diseases of Women*. Reprint from the Transactions of the Michigan State Medical Society, 1888.

Cuddy, J. W. C., A.M., M.D., Baltimore, Md. *Some Phases of the Civil Law in Relation to the Development of Man*. Reprint from Gaillard's Medical Journal.

Fry, Frank R., A.M., M.D., St. Louis, Mo. *A Clinical Study of Alcoholic Neuritis*. Reprint from St. Louis Courier of Medicine.

Canfield, William B., A.M., M.D., Baltimore, Md. *Report of the Section on Microscopy, Micro-chemistry and Spectral Analysis on the Microscopical Examination of Urinary Sediment*. Reprint from Transactions of Medical and Chirurgical Faculty of the State of Maryland, 1888.

Canfield, William Buckingham, A.M., M.D., Baltimore, Md. *The Gonococcus*. Reprint from the Microscope.

Mercer, A. Clifford, M.D., F.R.M.S., Syracuse, N. Y. *A Method of Using with Ease Objectives of Shortest Working Distance in the Clinical Study of Bacteria*. Reprint from the Microscope.

Michigan State Board of Health. *Prevention and Restriction of Small-Pox*. Reprint from the Annual Report of the Board for 1888.

Hewitt, Charles N., M.D., Red Wing, Minn. *Public Health a Public Duty. The Organization, Powers, and Relations of Local, State, and National Boards of Health*. The President's Address at the Sixteenth Annual Meeting of the American Public Health Association, Milwaukee, Wis.

Report of the Committee on the Pollution of Water Supplies appointed by the American Public Health Association. Read at the Annual Meeting at Milwaukee, Wis.

Carpenter, A. B., M.D., Cleveland, O. *Report on Progress in Gynecology*.

LETTERS RECEIVED.

J. M. Bessey, M.D., Toledo, O.; H. H. Peachy, M.D., Loveland, O.; Thos. F. Goode, Buffalo Lithia Springs, Va.; Parke, Davis & Co., Detroit, Mich.; Battle & Co. Chemists Corporation, St. Louis, Mo.; James H. Buckner, M.D., Cincinnati, O.; Chas. W. Hitchcock, M.D., Detroit, Mich.; J. M. Bell, M.D., Murphy, N. C.; Lam-

bert Pharmacal Co., St. Louis, Mo.; W. P. Cleary, New York; Jacob L. Williams, M.D., Boston, Mass.; W. B. Atkinson, M.D., Philadelphia, Pa.; Bouché Fils & Co., New York; R. Melms, M.D., Chicago; St. v. Martinitz, M.D., Cedar Rapids, Ia.; Fairchild Bros. & Foster, New York; Codman & Shurtleff, Boston, Mass.; Wm. Pepper, M.D., Philadelphia, Pa.; T. J. Kane, M.D., Paterson, N. J.; G. E. Francis, M.D., Worcester, Mass.; A. F. Sampson, M.D., Galveston, Tex.; G. N. Seidlitz, M.D., Keokuk, Ia.; R. S. Anderson, M.D., Grove City, Ill.; W. D. McGowan, M.D., Ligonier, Pa.; Wm. Manlius Smith, M.D., Syracuse, N. Y.; National Surgical Institute, Atlanta, Ga.; National Architects' Union, Philadelphia, Pa.; Ohio Buggy Co., Columbus, O.; J. J. Conner, M.D., Pana, Ill.; W. P. Cleary, New York; Dr. Sauerhering, New York; A. A. Marks, New York; A. L. Justice, M.D., El Paso, Tex.; McL. Miller, M.D., Oconomowoc, Wis.; Rumford Chemical Works, Providence, R. I.; Dr. Woodruff, London, Ont.; Overman Wheel Co., Boston, Mass.; J. H. Eskridge, M.D., Chicago; T. M. Talbot, M.D., Columbus, O.; Beatrice Pearce, M.D., Waukegan, Ill.; Charles T. Parkes, M.D., Chicago; S. Solis-Cohen, M.D., Philadelphia; E. R. Williard, M.D., Tiffin, O.; Hal. C. Wyman, M.D., Detroit, Mich.; J. W. Unger, M.D., West Point, Miss.; W. C. Jones, M.D., Grass Valley, Cal.; Wm. B. DeWees, M.D., Salina, Kas.; E. H. Dudley, M.D., Shell Rock, Ia.; E. F. Brush, M.D., Mt. Vernon, N. Y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 9, 1889, to February 15, 1889.

The Medical Director will proceed to Ft. Buford, Dak., on public business connected with the Medical Department, and upon completion of duty will rejoin his station. Par. 8, S. O. 14, Hdqrs. Dept. of Dak., St. Paul, Minn., February 5, 1889.

Major Leonard W. Loring, Surgeon, leave of absence on surgeon's certificate of disability granted in S. O. 6, A. G. O., Dept. of Ariz., January 18, 1889, is extended six months on account of disability, by direction of the Secretary of War. Par. 23, S. O. 35, A. G. O., Washington, February 11, 1889.

Capt. Edgar A. Mearns, Asst. Surgeon, is relieved from temporary duty at Ft. Pembina, Dak., and will rejoin his station, Ft. Snelling, Minn., without delay. Par. 4, S. O. 14, Hdqrs. Dept. of Dak., St. Paul, Minn., February 5, 1889.

Capt. Henry S. Kilbourne, Asst. Surgeon, having complied with par. 2, S. O. 6, Dept. of the Columbia, will return to his station, Vancouver Bks., W. T. Par. 1, S. O. 9, Hdqrs. Div. of the Pacific, San Francisco, Cal., February 2, 1889.

By direction of the Secretary of War, Capt. Robert W. Shufeldt, Asst. Surgeon, having appeared before the Army Retiring Board at Ft. Leavenworth, Kan., in compliance with paragraph 1, S. O. 4, January 5, 1889, from this office, will repair to this city to await action on the proceedings in his case. Par. 12, S. O. 32, A. G. O., Washington, D. C., February 7, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending February 16, 1889.

Surgeon D. N. Bertolette, detached from the "Thetis" and wait orders.

P. A. Surgeon L. G. Henneberge, detached from "Minnesota" and to the "Thetis."

Surgeon R. A. Marmion, detached from "Juniata" and wait orders.

Asst. Surgeon F. N. Ogden, detached from "Juniata" and wait orders.

Asst. Surgeon Chas. F. Stokes, ordered to the "Minnesota."

Asst. Surgeon Geo. B. Wilson, ordered to the Navy Yard, Mare Island, Cal.

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ORIGINAL ARTICLES.

THE PREVENTION OF PUERPERAL FEVER.

Read before the Chicago Medical Society, February 4, 1889.

BY W. W. JAGGARD, M.D.,

PROFESSOR OF OBSTETRICS, CHICAGO MEDICAL COLLEGE; OBSTETRICIAN TO MERCY HOSPITAL.

The crowning glory of Semmelweiss' theory of puerperal fever, as aptly remarked by Kucher (Puerperal Convalescence and the Diseases of the Puerperal Period, p. 234. J. H. Vail & Co., New York, 1886) is the chapter on prevention. In the fifteen minutes allotted to this topic by the directors of the present discussion, it is possible only to give the briefest outlines of the subject.

The principles upon which the prevention of puerperal fever depends are few and very simple. As summarized by Credé (Gesunde und kranke Wöchnerinnen. Leipzig, 1886, p. 79) there are only two. They are: 1. Prevent, as far as possible, lesions of the genital tract. 2. Prevent the infection of the lesions that are inevitable.

Let us discuss each of these principles in detail.

1. Prevent, as far as possible, lesions of the genital tract. In every labor, no matter how ideally physiological it may be, there is always some solution of the continuity of the tissues that constitute the genital tract. What is the extent of the necessary puerperal wound? 1. The entire area of the endometrium that contributes to the formation of the decidua, inclusive of the placental site, must be regarded as a wound surface after labor. With the commencement of labor, the ovum is forced downward toward, and into the cervix, so that the mucous membrane begins to be deprived of its epithelium, as deeply as Friedländer's glandular stratum. In the commencement of labor, during labor, and during the early days of the lying-in period, until a new mucosa is formed, the intra-uterine expanse is easily accessible to the finger and to the air, and infection is liable to occur at any moment.

2. The neck of the uterus, particularly the os externum, is commonly torn to a greater or less degree, even in physiological labors. The epithelium lining the cervical canal and covering the vaginal portion is always rubbed off to a variable

extent by the passage of the fetus, even in the absence of operative procedure.

3. The vaginal mucosa is apt to be denuded in some degree of its epithelium, by the friction of the passagers. Lacerations of the vulvar orifice and lower vagina are of such common occurrence that they are erroneously regarded by certain observers as necessary events.

The puerperal wound, thus marked out, cannot be prevented, but its limitation to these boundaries can be secured, in the large majority of normal cases, by attention to the following precautions:

1. Let the diagnosis of presentation and position, and of the stage of labor be made, as far as possible, by the methods of physical examination of the abdomen; inspection, *palpation*, percussion and auscultation. Limit to the minimum the number of digital examinations *per vaginam*. The adequacy of the methods of physical exploration of the abdomen, in the absence of all examinations by the vagina, has been fully established by the experience of Credé, Breisky, Litzmann, Halbertsma, Winckel, C. Braun and others. In our own country, Richardson, Mundé, Kucher, Neale, Hoag and others have repeatedly urged the value of these methods.

2. Let the bag of waters rupture spontaneously. The bag of waters and the presenting part—not the presenting part alone—is the physiological means by which the neck of the uterus is dilated. Dr. Henry T. Byford has ably written upon the important function of the bag of membranes in the dilatation of the vagina and vulvar orifice, and forcibly urges its maintenance in an intact state, after disappearance of the cervix, upon this ground. I have never been able to perceive any important action of the nature alleged, nor, on physical grounds, can I conceive such an effect in an important degree to be possible. Nevertheless, I am perfectly willing to accept Dr. Byford's ingenious conclusions, if this notion will influence practitioners to withhold from rupturing the membranes. The intact state of the bag of membranes must be preserved for at least two reasons: 1, to secure perfect dilatation of the cervix uteri; and 2, to prevent the access of air and other carriers of infection to the cavum uteri. This latter important office of the bag of membranes has recently received recognition from Goodell.

3. Preserve the perineum and vulvar orifice. Except in cases of congenital malformation, or infiltration of the tissues as the result of various diseases, the perineum and vulvar orifice can be preserved in every case, either by the plan of so-called support, or by the timely performance of episiotomy. This proposition many of you will not accept, but I must maintain it as a firm conviction, based upon sufficient personal observation and experience, and independent of the unanimous testimony of those whose opinion upon this point is responsible.

But if a laceration of the perineum does occur, or if episiotomy is done, unite the rent in the one case, or the incision in the other, immediately upon the conclusion of labor.

4. Refrain from all those meddling, injurious practices, that have for their object abbreviation of the first stage of labor—such as digital dilatation of the cervix, the exhibition of ergot, even in small doses, and the like.

5. Deliver the placenta by the Dublin method, or by the same plan as it has been described by Credé. Inasmuch as the adequacy of this method has been called in question, within the last six months, by a member of this Society, that alleges an experience of over 2,500 cases in obstetrics, it may not be amiss to add that in 48,249 cases—Vienna General Hospital (Carl Braun. *Lehrb. d. g. Gynäkologie*, Wien., 1881, p. 182) eleven years, 1862–1872—the expulsion of the placenta was effected by Credé's plan in 48,132 cases, or 99.8 per cent.; only in 117 cases, 0.2 per cent., or once in 500 cases, was it necessary to resort to other procedures.

Turn now to principle number two.

2. Prevent the infection of the lesions that are inevitable. Infection of lesions of the genital tract during or after labor occurs in one or other of two modes. 1, contact infection; second, indirect infection, so-called self-infection, or spontaneous infection (Fritsch). In the very large proportion of cases, the carrier of the infection is the finger of the accoucheur or nurse, their instruments, or the napkin, and the cases are examples of contact infection. Reflecting upon such cases, Emmet once drastically remarked, "Many a woman's death-warrant has been carried under the finger-nails of her physician." But the researches of Winckel and Ahlfeld tend to show that a woman may become the subject of puerperal fever without exposure to infection through vaginal examination. Alleged examples of the so-called auto,—self—or spontaneous infection are to be found in Winckel's cases of street labors, and Ahlfeld's cases, in which no vaginal examinations were permitted. Such cases are very rare. The experience of Leopold (*Deutsche Med. Wochenschrift*, No. 20, May 17, 1888) in particular, shows that in proportion as measures to prevent contact infection are faithfully carried out, just in that pro-

portion do these cases of so-called self-infection disappear. At the Dresden clinic, out of 1,387 cases of labor in 1887, and 1,388 in 1888, 248 cases were neither examined *per vaginam*, nor subjected to vaginal irrigation. In only five, or 2 per cent., were slight symptoms of fever developed. All these cases of so-called auto-infection are in reality examples of infection from without. They receive full explanation in the researches of Döderlein (*Arch. f. Gyn.*, 31 Bd., 3 Hft.) and Kaltenbach (*Volkmann's Sammlung klin. Vortr.*, Nr. 295), and others. The secretions of the cervix and the vagina contain, under normal conditions, pathogenic and non-pathogenic germs, that may gain access to the cavum uteri, or may penetrate into lesions of the cervix and vagina, and cause local, followed by general infection.

In the prevention of the infection of the inevitable lesions of child-birth, it is necessary to bear clearly and distinctly in mind these two modalities, and to concentrate attention upon their elimination. At the present, the fear of the deleterious influence of the atmosphere has abated, just as in surgery (*Kümmel. Bedeutung der Luft und Contact-Infection für die pract. Chirurgie. Arch. f. Klin. Chirurg.*, 33 B. 3 H.) the scrupulous attention paid to the disinfection of the surrounding air in the early days of Lister has relaxed. The specific details observed in the prophylaxis of contact and so-called self-infection of the lesions incident to parturition, due allowance being made for the structural and functional peculiarities of the region, are strictly analagous to, if not identical with the precautions that every surgeon abreast of the times enjoins in the prevention of wound infection in all major and minor operations. The surgeon sterilizes the field of operation, the immediate environment, and everything that comes in contact with the wound: the obstetrician acts under the same principles.

The specific details are:

A. PRECAUTIONS OBSERVED BY THE ACCOUCHEUR AND NURSE.

1. Sterilization of the hands, of all instruments and appliances, napkins, and the like, that are liable to be brought into contact with the genitalia. In the disinfection of the hands, it is necessary to bear in mind the vital significance of subungual dirt, of the exact surgical aspects of which Fürbringer (*Untersuchungen und Vorschriften über die Desinfektion der Hände des Arztes nebst Bemerkungen über der bakteriologischen Charakter des Nagelschmutzes*. Wiesbaden. Bergmann, 1887) has informed us. To sterilize the hands, it is necessary to wash them thoroughly in warm water with soap and a clean nail-brush, remove subungual accumulations and trim the nails with a knife; then dip the hands into an 80 per cent. solution of alcohol (Fürbringer); finally rinse the hands carefully in a solution of corro-

sive sublimate 1:1000. Make the examination before wiping the hands with a towel. In the disinfection of the hands it is well to include the disinfection of the forearm; it is absolutely obligatory in the event of any operative procedure, like version or the forceps operation. A lubricant can usually be dispensed with, although there is no objection to the use of a solution of corrosive sublimate in glycerine, 1:1000. Instruments can be effectually sterilized by being boiled in water for five minutes (Davidsohn). For washing the genitalia, cleaning wound surfaces, for napkins and the like, employ either sterilized absorbent cotton, or sterilized gauze, to the total exclusion of sponges. Pass the catheter, after cleansing the meatus urinarius, by sight, not by touch; use a glass instrument; keep it constantly immersed, when not in use, in a solution of corrosive sublimate in glycerine, 1:1000; you will thus avoid cystitis (Boxall, R.)

2. The important question, "How soon after exposure to sources of infection may the accoucheur or nurse resume the practice of obstetrics?" has received a very satisfactory answer in a paper by French of Minneapolis. Under exposure to sources of infection, he it remarked, we understand exposure to puerperal fever, erysipelas, diphtheria, scarlet fever, pus secreting wounds or surfaces, cadaveric emanations, menstrual and lochial discharges, and the like. In the paper mentioned, French collected the written opinions, of the leading surgeons and obstetricians, whose utterances were at all authoritative upon the point, in this and foreign lands. The weight of opinion was that the lapse of any definite period of time,—say twenty-four hours,—was not an essential condition to adequate disinfection. That a Turkish bath, a change of clothing, and the subsequent disinfection of the hands and forearms might render the individual surgically clean in a much briefer space of time.

B. PRECAUTIONS TO BE OBSERVED WITH REFERENCE TO THE PARTURIENT WOMAN.

1. Before the first examination per vaginam, and before all operative procedures that involve the introduction of the hand or instrument, it is necessary to sterilize as far as possible the pubic hair, vagina, and the accessible portion of the genital tract. Winter, (*Zeitschr. f. Geburtsh. u. Gynäk.*, Bd. xv, Heft. 2) as before remarked, and others have shown that under normal conditions, pathogenic microbes are present in the cervical and vaginal secretions of more than half of all cases; that they are present within the cavum uteri and tubes only when they have been introduced, as by the use of the sound. The possibility of so-called auto-infection is thus demonstrated, even in the absence of the evidence adduced by Ahlfeld, Winckel and others. The difficulty in the absolute sterilization

of the canal of the cervix uteri and the vagina is great, almost insurmountable. Steffek (*Zeitschr. f. Geburtsh. u. Gynäk.*, Bd. xv, 2 Heft.) concludes a very instructive series of experiments upon this point, in the following words: "A thorough washing out of the lower segment of the cervix and the vagina by the aid of two fingers, and subsequent careful irrigation, with one litre of sublimate solution (1:3000) or 3 per cent. carbolic acid solution every two hours is essential to the sterilization of the parturient passages." Experience, however, teaches that surgical cleanliness of the woman and relative sterility of the parturient canal may be secured:

a. By a full bath in warm or hot water, in which soap is freely applied about the pubic hair, and external genitalia, and

b. By thorough vaginal irrigation with sterilized water, or dilute solutions of sublimate or carbolic acid.

In conclusion upon this point let us bear in mind the fact that sterilization of the parturient passages is obligatory as well in the prevention of ophthalmia neonatorum, as in the prophylaxis of puerperal fever.

2. Let the hand follow the contracting uterus, when the head has passed the perineum, and remain upon the fundus until the placenta is expelled, and until retraction of the uterine musculature is secured. Of course, the placenta and membranes must be critically inspected as to their integrity. In case of retention of a bit of placenta,—normal or succenturiata,—the offending fragment must be removed. In case of retention of portions of the chorion or decidua, it is safer to trust to the uterus for its spontaneous expulsion. Small clots of blood, lurking in the cavum uteri, and loitering fragments of the membranes will do no harm, provided they have not been infected.

3. After the completion of labor wash the external genitalia and irrigate the vagina, to remove the detritus, and apply a sterilized napkin. Daily vaginal irrigation during the puerperium is strongly contraindicated in normal cases of labor. Let the external genitalia only, be washed during the lying-in-period.

4. The cavity of the uterus ought never to be irrigated after labor, except in the presence of a distinct indication. When the hand is introduced as in version, when the liquor amnii is discolored as in protracted labors, when the fœtus is dead or macerated, this indication is presented. For the purpose of irrigation, use sterilized water: there is considerable danger of resorption from the use of carbolic acid or sublimate. To effect permanent disinfection of the cavum uteri, use either iodoform or salicylic acid alone or in combination. I give the formulæ as suggested by v. Mosetig-Morhoof in 1881, and by Ehrendorfer still later. (Emil Ehrendorfer, *Leitung der Geburt und des Wochenbettes nach antiseptischen Principen*.)

Iodoformi pulv.	20.0
Amyli	20.0
Glycerine	
Gummi Arab.	āā 1.0
Ol. terebinth.	gtt. xx
M. f. bacilli Nr. sex.	
Acidi salicyl.	5.
Amyli.	
Glycerine	
Gummi Arab.	āā 1.0
Ol. ricini	gtt. x
M. f. bacilli Nr. decem.	

(Schnitzler's Klinische Zeit- und Streitfragen, Wien., 1888.)

Now after disinfection of the cavum uteri by irrigation, and its permanent disinfection by iodoform or salicylic acid, *let the uterine cavity severely alone* for the entire period of the puerperium. More Madden writes in the paper on "Puerperal Fever," read before the last International Medical Congress, "From the first day after delivery until convalescence has taken place, the uterine cavity, as well as the vagina, should be daily washed out with water as hot as can well be tolerated." Such a notion of the prevention of infection is an example of irresponsible opinion, that needs no condemnatory comment. The procedure is barbarous and in utter opposition to the views and practice of those that speak and write with authority upon this subject.

5. It is an axiom in obstetrics that a firmly contracted uterus is well-nigh proof against infection. During the first two days of the puerperium gentle friction of the fundus uteri, twice daily aids materially in securing firm retraction of the uterine musculature, and does not at all interfere with the process of puerperal thrombosis. This practice originated in Carl Braun's clinic. It is more efficient than the use of ergot. Commonly, there is no objection to the use of this drug in addition.

C. PRECAUTIONS WITH REFERENCE TO THE ENVIRONMENTS.

As before remarked, no attempt is now made to disinfect the air. Delivery under the spray and in a tub of water,—a curious Russian device,—have passed into ancient history. The only condition in the environment that we demand is a clean bed, and clean linen; but these are not essential conditions provided the items, already mentioned, have been supplied. It would be better for the parturient woman, if the confinement room had no communication with the sewer, since vitiated air is unwholesome under all conditions of human life. But this is by no means an essential condition. As aptly remarked by Kucher, "I would be less frightened by the bursting of a sewer pipe during labor, than by the use of a suspicious sponge or an unclean rag on the external genitals."

Thus, very briefly I have tried to outline the principles and the practice of the prevention of

puerperal fever. To complete the subject of the prevention of puerperal infection, a word ought to be said on the prevention of the infection of the breasts,—mammary abscess,—and upon the prevention of the infection of the new-born; these topics, however, cannot be considered in the space of time at my command.

One word in conclusion. These rules are simple and easy of application as well in private, as in hospital practice; as well on South Halstead Street, as on Calumet Avenue. The evidence upon which they rest to-day is overwhelming, and amounts to absolute demonstration. The proposition that puerperal fever is in every case an example of infection through a lesion of the genital tract, is no longer offered tentatively for your criticism, but dogmatically for your acceptance. It is not within the scope of this paper to offer statistical proof, but if there be a doubting Thomas present, and if he be a sincere, honest seeker after truth, let him look for such figures in the books, for they are there.

A CASE OF ALCOHOL AND TOBACCO AMBLYOPIA; WITH REMARKS.

Read before the Fort Wayne Academy of Medicine, December 6, 1888.

BY KENT K. WHELOCK, M.D.,

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On September 29, 1887, a gentleman, D. S. by name, æt. 50, consulted me for a defect in his eyesight. He said that for six months his sight had been growing dim, which necessitated a frequent change in his spectacles; that he had tried glasses at all the shops in town where they were for sale, but could not find any with which he could see to read. He then consulted me on the advice of his physician, as the patient thought the eyelids were at fault. He had no pain about his eyes and his general health was good as usual.

On inspection the eyelids showed some slight conjunctivitis of a chronic character, but not sufficient to account for the visual defect. A functional examination showed that his vision for distance was reduced to $\frac{1}{16}$ in either eye, with a greater defect in the left. He could not read Jaeger No. 16 or 2-line great primer with either eye. T. normal; field perfect; ophthalmoscopic examination showed discs white both on temporal and nasal side, with large physiological excavation. No nutrient vessels on disc. The terminal branches of the retinal artery reduced somewhat in both eyes below what I thought might be considered the normal calibre. The veins did not seem to me to be materially reduced. No loss of sensation in the color perception. Patient distinguishes colors by name and assortments accurately. Recognizing that the optic nerve was undergoing atrophic changes I asked him if he smoked much,

and he said that he used twelve or fifteen cigars daily or their equivalent in pipe tobacco. I then asked him if he used intoxicants to any extent, and he replied that he took a glass of beer occasionally. Knowing, however, the patient's habits, the latter remark was taken with a large grain of allowance, and the equivalent of one gallon of beer was allowed as a margin upon which daily calculations might be based. Being satisfied that alcohol and tobacco were the causes of the changes observed, strict abstinence was enjoined, and hypodermic injections of strychnia sulphas, gr. $\frac{1}{60}$, were made into the back twice daily. At the same time bromide of potassium and iodide of potassium, of each 10 grs., was ordered to be taken three times daily.

On October 4 the sight had increased to $\frac{2}{30}$, and Jaeger No. 14 or great primer could be read with glasses which corrected his presbyopia. The treatment of hypodermic injections was continued till November 4, when the patient's sight for distance was $\frac{2}{20}$ + or above normal; that is, he could read at the distance of 20 ft. what the normal emmetropic eye should read at 20 ft., and most of the next lower line, which should be read by the normal emmetropic eye at 15 ft. As to near vision he could read Jaeger No 1 or diamond type at 15 inches with the glasses that corrected his presbyopia. After about two weeks of treatment with hypodermic injections of the strength of gr. $\frac{1}{60}$, I began using the strychnia of the strength of gr. $\frac{1}{30}$, which was gradually increased to gr. $\frac{1}{16}$.

Since November 4 no strychnia has been employed, but potass. iod. alone in 10 gr. doses was continued.

November 10 patient's vision much the same as on November 4. Have watched patient closely, and am convinced that he has taken no alcoholic drinks and smoked no tobacco. There was no limitation in the field and no color scotomata. It is right to say that patient cannot read readily type smaller than Jaeger No. 4 or minion, because he is unable to see accurately the beginning letter of each word, and must turn his head in different positions to catch the succeeding word when the letters are very small. Pupils respond naturally to light.

The first question, perhaps, which will be asked in regard to this paper is, How do you know that the changes in the optic nerve are due to alcohol and tobacco, and is there anything characteristic in the disc that would show alcohol and tobacco to have caused the peculiarity? I answer that there is nothing distinctive in alcoholic and tobacco amblyopia with consecutive atrophy that enables one to make the diagnosis upon ophthalmoscopic appearances alone. An atrophy of the optic nerve may have followed choked disc or tumor at the base of the brain. If the atrophy have followed choked disc, and the case be seen not too long after the inflammation begins to subside, we

will first of all notice that the disc is not well defined, the edges of the circle will not appear as clean cut, but will be frayed a little, and the vessels of the disc will shade over into the tissue of the retina. The arteries will be thread-like, or at least very much attenuated, and the veins distended and tortuous, showing that the return circulation is interfered with. While the connective tissue becomes very much thickened, there is an effusion into the surrounding tissue, which makes the disc very hazy. Vision is usually reduced to a great extent, yet perfect vision may be retained in the early stages of the disease. As the inflammation subsides the disc assumes a creamy tint, the mistiness due to the effusion passes away, and the whitened papilla seems to lie on a plane with the surrounding retina. The later features, then, characteristic of choked disc are illy defined circumference of the disc; tortuosity of veins to a greater or less extent; and pale creamy tint of the papilla.

The disease, when of central origin, is bilateral, and usually both eyes become involved about the same time; or the inception of the trouble in the one eye is followed very shortly by the affection of the other eye. When the cause is within the orbit, of course the neuritis is confined to this side. The onset of the trouble is usually rapid, and a few hours or days may be sufficient to render the patient quite blind. The field of vision is generally affected more or less, and in such cases a certain amount of atrophy may be expected to follow. The state of the pupil depends greatly upon the acuity of vision. When this is not greatly impaired the pupil responds readily, and is of normal size. The pupil may be widely dilated, and quite immovable. Bright subjective lights are usually complained of, and always cause much annoyance and complaint in a sensitive patient. If the patient have much pain of a severe character in the head, and radiating all over the cranium, we may suspect the trouble to be of central origin. Loss of memory, vomiting, epileptoid seizures, giddiness, loss of taste or of hearing, point to the brain as the cause of the trouble. In the large majority of cases of choked disc the origin may be located in the brain.

Absence of all the foregoing symptoms, together with exclusion of orbital tumors, does not imply that we have not to do with an interference with return circulation. Tumors of the brain account for most cases of choked disc, and when the brain trouble is chronic, double choked disc almost always means brain tumor or basilar meningitis with exudation. Complete recovery with good sight does not prove that the gross changes in the brain are not still present. And the fact that we may have optic neuritis without headache and vomiting makes the diagnosis of the cause very perplexing when seen late.

As a rule, optic neuritis ends in complete atro-

phy of the optic nerve and loss of sight; hence the majority of these cases are very doubtful as to the result.

Progressive atrophy of the optic nerve, when seen early, may show some hyperæmia of the disc; but this cannot be asserted positively, since the color of the papilla varies much in normal eyes. Progressive atrophy is characterized by pale, white, or bluish-white discoloration of the papilla, diminution in the calibre and number of the nutrient vessels on the disc, attenuation of the retinal veins and arteries, more especially the arteries, and frequently a peculiar excavation of the nerve. Sometimes the whiteness of the disc is complete and smooth like paper, and again there is a green or bluish cast to the reflection. The circumference of the disc is well defined and sharply cut, as though done with a punch; or the circumference may be a little irregular, yet always clean cut.

In amaurosis of spinal origin the disc is usually green or bluish-green, and by some authors this is regarded as almost pathognomonic. In progressive atrophy the retinal vessels are thread-like and very few; they are short and cannot be followed far on to the retina. Contraction of the field of vision is an important element in progressive atrophy. When contraction of the field has become marked in one eye, and the other eye shows contraction at the same place, we have very positive proof of progressive atrophy.

The causes of progressive atrophy may be found in meningitis, acute and chronic, periorbitis and tumors. Locomotor ataxy and chronic myelitis furnish a certain percentage of cases of progressive atrophy. I recall one case of locomotor ataxy that showed beginning atrophy as the first recognized symptom of the major trouble. The eye affection is usually a late manifestation of the spinal trouble, however. Again, loss of vision in locomotor ataxy may be due to paresis of accommodation with no disease whatever of the optic nerve. According to Graefe 30 per cent. of cases of progressive atrophy are due to spinal disease.

If the atrophic process has been going on for some time the prognosis must be very guarded, and the state of the field of vision must be our guide. When the field is affected in both eyes the disease will, in all probability, progress to complete blindness. The interruption in the progress of the unfavorable cases is not long. When the atrophy cannot be traced to any definite cause the prognosis is unfavorable. In those cases in which the field is normal, even though the trouble has existed for some months, and the acuity of vision fallen to one-tenth or one-sixth, we may regard the disease as not due to progressive atrophy, says Wells. He further says that in these cases the vision may not improve.

Upon the history of this case as it is presented, and in consideration of the foregoing, the diagno-

sis of amblyopia potatorum was made, and in my opinion tobacco also formed an element in the causation. Mr. Hutchinson says in a paper on the subject of "Tobacco Amanrosis:" "The cases which form the subject of this paper are recognized by the loss of blood supply to the optic nerve itself. There is usually not much diminution of the size of the vessels which supply the retina, and often these remain of good size, while the nerve itself is as white as paper. The first stage (one which is usually very transitory, and perhaps often altogether omitted) is one of congestion, during which the disc is too red. Then follows pallor of the outer half of the nerve disc, that part which is nearest the yellow spot. During the stages the patient complains merely of dimness of vision. Everything seems in a fog to him, but he has no pain in the eyes, nor any photophobia or photopsia. In the later stages the whole optic disc has become pale even to blue-milk whiteness; and later still there is proof not only of anæmia of the nerve, but of advanced atrophy. The stages generally occupy from four months to a year. In many cases the patient becomes at length absolutely blind; but in others the disease, having advanced to a certain point, is arrested. There is from first to last no evidence of disease in any structure of the eye-ball, excepting the optic nerve, and even after years of absolute blindness the retina and choroid remain healthy and their blood-supply good."

Romée regards weakening of accommodation as the first sign of chronic alcoholism. The diminution of sight to one-sixth or below occurring within a limited period of time and simultaneously in both eyes he regards as pathognomonic of alcoholic amblyopia. The nature of the affection he considers to be a diffuse interstitial sclerosis of the neuroglia of the nerve fibres originating in the nerve centres. In the few cases of this kind which have been examined microscopically, the nerve fibres were found the seat of fatty degeneration, and the connective tissue framework was hypertrophied. The disease is always bilateral, and in severe cases the patient often complains of persistent colored after-images.

Dr. Alt, of St. Louis, has reported 120 cases of anæmic and atrophic conditions of the optic nerve and retina, which I have made some attempt to analyze. As Dr. Alt says that he had at one time abandoned the use of strychnia in these cases, but upon subsequent trial had resumed its use, many cases were seen but once, which no doubt received a very doubtful prognosis, and were turned away without treatment. Therefore the possibilities that treatment might have offered can not be known. Of the 120 cases there are charged to alcohol and tobacco, 34; alcohol alone, 3; tobacco alone, 7; total, 44, or 36 per cent. As to the time of life during which the noxious influence of tobacco and alcohol seem to be most potent,

the following will give some account: Alcohol and tobacco caused the trouble between 20-30, 5; between 30-40, 9; between 40-50, 15; between 50-60, 10; between 60-70, 1. In seven cases tobacco alone was the cause, and the ages are disposed as follows: Between 20-30, 1; between 30-40, 2; between 40-50, 1; between 50-60, 3. Alcohol alone was responsible in three cases, whose ages range as follows: Between 50-60, 1; between 60-70, 1; between 70-80, 1.

Of those cases in which mention is made of the color-sense, it was impaired in cases of alcohol and tobacco 11 times; tobacco alone, 3 times.

The color-sense usually impaired is that for red and green, as the following will show: Alcohol and tobacco, red 1, red-green 2, green 3, no color-sense 1. In tobacco alone the color-sense was lost for green and red-green. In alcohol and tobacco the field of vision was contracted in 9 cases.

No. 1. Visual field, concentric limitation; acuity, R., $\frac{2}{30}$, L., $\frac{2}{60}$; treatment, ars., pot. iod., strychn.; time, 6 weeks; result, none.

No. 3. Visual field, central scotoma; acuity, $\frac{2}{0}$, both; treatment, pot. iodide; time, 2 weeks; result, does not change.

No. 4. Visual field, yellow-blind; acuity, $\frac{2}{60}$, $\frac{2}{0}$; treatment, pot. iod.; time, 4 weeks; result, $\frac{2}{0}$, $\frac{2}{0}$.

No. 9. Visual field, green-blind, central scotoma; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, pot. iod.; time, 1 year; result, color restored, $\frac{2}{30}$, $\frac{2}{30}$.

No. 11. Visual field, green-blind, restricted down and in; acuity, $\frac{2}{0}$, $\frac{1}{5}$; treatment, abst.; time, 2 months; result, none.

No. 12. Visual field, yellow-blind, concent. limited; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, pot. iod.; time, 2 months; result, $\frac{2}{0}$ u.

No. 15. Visual field, limited downward and cent. scot., both; acuity, $\frac{2}{0}$ u.; treatment, strychn. pot. iod.; time 18 months; result, blind.

No. 17. Visual field, restricted inward, central scotoma; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, pot. iod.; time, 6 weeks; result, $\frac{2}{0}$ u.

No. 19. Visual field, limited concent. and central scotoma; acuity, $\frac{1}{0}$, $\frac{2}{0}$; treatment, strychn., pot. iod.; time, 4 months; result, $\frac{2}{0}$ L.

No. 27. Visual field, color sense impaired; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 1 year; result, none.

No. 28. Visual field, restricted in and down in both; acuity, $\frac{2}{0}$, $\frac{1}{0}$; treatment, strychn., pot. iod.; time, 2 months; result, $\frac{2}{0}$ u. Improved when strychnine was used.

No. 31. Visual field, restricted downward and in, central scotoma; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 6 months; result, none.

No. 35. Visual field, R., cent. inward and down, L., normal; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 6 weeks; result, $\frac{2}{0}$, $\frac{2}{0}$. Never drinks.

No. 52. Acuity, $\frac{1}{0}$, $\frac{2}{0}$; treatment, pot. iod., strychn.; time, 7 months; result, $\frac{2}{0}$, $\frac{2}{0}$.

No. 53. Visual field, central scotoma; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; seen once. Saloon keeper.

No. 66. Acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 2 months; result, $\frac{2}{0}$, $\frac{2}{0}$.

No. 71. Visual field, central scotoma; acuity, $\frac{2}{0}$ u.; treatment, strychn.; time, 2 mos.; result, $\frac{2}{0}$ u.; never drinks.

No. 81. Visual field, central scotoma; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, pot. iod., strychn.; time, 2 months; result, $\frac{2}{0}$, $\frac{2}{0}$.

No. 84. Visual field, central scot.; acuity, $\frac{2}{0}$ u.; treatment, pot. iod., strychn.; time, 3 months; result, $\frac{2}{0}$ u.

No. 94. Visual field, central scot.; acuity, $\frac{1}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 2 mos.; result, $\frac{2}{0}$ u.

No. 104. Visual field, central scot., R.; acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 6 weeks; result, $\frac{2}{0}$, $\frac{1}{0}$.

No. 105. Visual field, con. limited, cent. scot.; acuity, $\frac{1}{0}$ u.; treatment, strychn.; time, 3 weeks; result, $\frac{2}{0}$ u.

No. 106. Visual field, red-green blind, central scot.; acuity, $\frac{1}{0}$ u.; treatment, strychn.; time, 8 months; result, $\frac{2}{0}$ u.

No. 107. Acuity, $\frac{2}{0}$, $\frac{2}{0}$; treatment, strychn.; time, 3 months; result, $\frac{2}{0}$ u.

No. 108. Visual field, central scotoma; acuity, $\frac{2}{0}$ (?) u.; treatment, strychn.; time, 10 days; result, $\frac{2}{0}$ u.

There are a number of cases in this report in which the patient was seen but once, and as the result of whatever treatment instituted was not reported, I have thrown them out altogether. In some cases there was spinal trouble also, and injuries and central troubles, so all such cases were eliminated from my report.

A PRECISE METHOD OF EXCISION OF CLAVICLE, SCAPULA AND HUMERUS.

Read before the Chicago Medical Society, January 21, 1889.

BY CHARLES T. PARKES, M.D.,

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I am induced to present this case to you this evening both because of the rarity of such cases, and because it affords a very good example of the recovery of the human body from terrible injury. I will at the same time show you the specimen, which displays the disease *in situ*, and the amount of affection there was present.

Before doing this operation I, unfortunately, had not inquired very carefully into the subject; had not read much about it, and hence did not know much of the history of the operation, nor the circumstances under which it was adopted. But I have since been enabled to collect a little history of this operation, and will read what I have collected, mainly an abstract from a paper

read before a society in Berlin by Professor Adelmann. These cases come to the attention of the surgeon under three circumstances: first, the operation is done for the surgeon by machinery or some accident previous to the patient coming under his charge; second, the surgeon does a series of operations, removing first one part of the member, then another part, and finally a third or fourth part, until the patient dies of recurrence; and third, the primary removal of the entire extremity as soon as the disease is recognized—the healing under which this case will be placed.

Professor Adelmann addressed the Surgical Society of Berlin, June 4, 1888, concerning the operation for the removal of the upper extremity, together with the scapula and a part or whole of the clavicle. His address contains the history of the operation, placing the date of the first reported case at 1808. The operation was next performed, between 1830 and 1840, five times; between 1840 and 1850, five times; during the next decade, three times; during the next, seventeen times; during the next, thirteen times; and since 1880, twenty-six times; making in all 70 reported cases.

He discusses the statistics of Paul Berger, comprising 51 cases, and his method of operation. Adelmann makes three classes: (1) cases in which the operation was performed after traumatism; (2) cases in which the operation was performed for benignant tumors; (3) cases in which the operation was performed for malignant tumors.

In the first class are 14 cases with 9 recoveries; in the second class, 3 cases with 3 recoveries; in the third class, 50 cases with 24 recoveries. This third class is subdivided into *sarcomata*, of which there were 26; *enchondromata*, 7; encephaloid tumors, 4; the remaining number bearing different names in different languages.

Of the 50 cases with malignant tumor, in 25 the entire operation was completed at one sitting; among these 25 cases there were 10 recoveries. Of the 25 cases having more than one operation each, 19 cases were operated in two sittings with 10 recoveries, 4 cases had three operations each with 3 recoveries. Of 2 cases with six operations each 1 recovered. These recoveries apply simply to the operation itself; deaths from recurrence after healing of the wound are not counted in the statistics. Among the 25 cases in which several operations were performed there are 17 in which the arm was primarily removed, but having recurrence it was found necessary to remove the scapula and clavicle. Professor Adelmann remarks that this should induce us in the future to perform the entire operation at once, as these cases were all seen early, and the chances for radical cure must necessarily have been good. As it was, only 5 of all these 25 cases remained free from recurrence for years after—one

after 30 years, one after 20 years, two after 6 years, and one after 3 years.

In the 15 cases of death after one operation, 7 cases were due to the operation or to the low condition of the patient at the time of operation; 2 to shock; 3 to hæmorrhage; 1 to gangrene of the flaps; 1 to purulent pleuritis; and 1 to secondary hæmorrhage.

In 8 further cases in which the wound was entirely or almost entirely healed, the patient died from recurrence, five times in the lungs, the time of recurrence varying from three years to four months after the operation. In view of the frequent occurrence of secondary tumors in the lungs, the author advises careful examination of this organ, and considers an evidence of the presence of tumors in the lungs as a contra-indication for operation. The percentage of recoveries from this operation for malignant tumor is a little less than 50. Many methods of operation have been adopted by the different operators, but the plan of ligating both the subclavian artery and vein primarily seems to be advisable.

I will show the case as rapidly as possible, in order to let the patient get out of the room. You see the wound is healed, except this one spot of granulations. The boy, from his general appearance, is much healthier and stronger than previous to the operation. You will notice that there are quite a number of little pleats here, as if the sawing had not been very well done; there is apparently a superabundance of flap at the upper part which might have been used to close this gap of ulceration. This resulted because I had not a plan in view before the operation and made my flaps a little too redundant, so that when the lower flap was brought in contact with the upper one its fullness caused the foldings during apposition.

This case came before the clinic at Rush Medical College; a boy much reduced from pain, displaying merely an enlargement of the upper end of the humerus, implicating the shoulder-joint. The growth surrounded the bone, but was not uniform in development. Manipulation showed seeming fluctuation, both on the anterior and posterior aspect of the tumor, so much so that friends who sent him supposed that to open an abscess would be all that was necessary. But the appearance of the patient and the general aspect of the tumor rendered me suspicious, and, therefore, I introduced an exploring needle; instead of pus, I got only blood. The exploring needle went through the soft tissues to the bone, calling attention to the fact that there was not only implication of the soft part, but also disease of the bone itself. It seemed evident that it was a case of *sarcoma* of the shoulder-joint itself, probably commencing in the capsule and passing from it to the tissues around it, and that it would be very likely to recur after amputation, or other

simpler operation upon the shoulder-joint. I explained to the father that as it was a malignant tumor the only thing that seemed to me feasible was the complete removal of the shoulder. He consented to the operation.

From the report I have read you will understand that the immediate danger of the operation is hæmorrhage. There is another danger—the introduction of air into the veins as they are divided. In all operations about the large vessels of the neck or axillary space, where the veins are apt to be patulous, there is a source of anxiety to the surgeon from this cause. To overcome these immediate dangers, primarily to any incision for amputation, the circulation must be controlled by ligation of the subclavian artery and vein. This vein contains a large mass of blood and if divided without control of it much blood is lost aside from the danger of the introduction of air. Not having seen the reports of Paul Berger's method, I proceeded with this idea in view, and made the first incision above the clavicle, uncovering the subclavian artery, which was ligated close up to the side of the *scalenus anticus* muscle. The incision was then carried directly over to the top of the shoulder, the same as for amputation at the shoulder-joint. This incision was prolonged to the axillary space and along the line of the axillary border of the scapula. As soon as the axilla was opened the pectoralis major and minor muscles were divided and the axillary vein was included between two hæmostatic forceps and divided—the main trunks of the brachial plexus were then divided. The arm was then drawn over the front of the body and this incision adopted for excision of the scapula—following the spine of the scapula, so that the posterior flap was divided into two portions. These two flaps were dissected off until the posterior part of the scapula was uncovered; raising it from the chest wall, the muscles were divided and the extremity removed. All bleeding points, together with the axillary vein were now ligated and the flaps united.

This operation was not made upon any specific plan. Following the suggestion of Mr. May, who, in the last issue of the *Annals of Surgery*, reports two cases of this operation, I have looked through all the books in my library and have not found any specific method given. It remained for Paul Berger to give a plan for it. He was led to the plan he suggests after several trials upon the cadaver. The quickest and easiest method of doing the operation and securing the blood-vessels is according to his plan of procedure. He makes his first incision from the inner extremity of the clavicle outward to the top of the shoulder, immediately uncovers the clavicle and turns it out of the way; this leaves the subclavian vessels exposed so that they are easily secured. You all remember well as a result of past experience

that as the front of the axillary space is uncovered there is always to be seen a ridge across it produced by the raising of loose tissue upon the external thoracic nerve. It is easily found, and I call attention to it because passing outwards this nerve leads directly to the interval between the artery and vein, and hence to them. With the clavicle out of the way the vessels are superficially situated, easily isolated and free from diverging branches. The artery should be tied in two places, an inch apart, and divided; and the vein also; then the circulation is absolutely under control. May advises that just before the vein is tied the arm should be elevated for a few minutes to allow the venous blood to drain from it, thus saving as much blood as possible for the patient. In my second case I applied the Esmarch bandage up to the axilla. As soon as the arteries are secured in this position, by a rapid cut with the scissors, the brachial plexus can be divided and the pectoralis major and minor be severed.

The flap portion of the operation is done in this way: Commence at the center of the anterior incision and carry the knife directly across the anterior part of the axilla and inner arm to the lower angle of the scapula; then from the outer edge of the incision, posteriorly, carry the knife behind the joint to the same point; rapidly reflect the posterior flap; then all the muscular attachments should be divided and the extremity removed without any trouble. This gives a perfectly even anterior and posterior flap, coming together easily and nicely, and avoids the unseemly appearance of the anterior part of this wound which was caused by the too redundant anterior flap.

This operation was done six weeks ago, and after the first few days there was no time when we felt particularly anxious about the patient's recovery. The patient's perfect recovery has been interfered with by an accident, the effect of which you notice, the sloughing of the flaps, leaving this ulcer. In dissecting up the flaps one is compelled to keep close to the surface, diminishing greatly the nourishment of this immense piece of skin. The danger is increased if the post-scapular artery is wounded; so it is necessary to bear in mind the direction of these incisions in order to secure as neat a stump as possible.

Prof. Adelman's goes on to show that an artificial extremity can be applied to these cases, which overcomes the lack of symmetry, and which can also be made quite useful.

The second case came in about two weeks after this first, demonstrating the assertion that all cases come in couples. A man 37 years old came in one afternoon, with a tumor on the top of his shoulder, occupying the situation of the supraspinous fossa. It had all the indications, so far as external appearances, of a fatty tumor. A surgeon in charge of a clinic labors under this

disadvantage in all his cases; he has no opportunity for previous examinations, and hence is apt to go into a case without as complete an examination as it is entitled to. This tumor was examined hastily and the history hastily passed over, and the suggestion made that, in all probability, it was not a fatty tumor but, from the rapidity of its growth, would prove to be malignant, and that it was connected with the superficial tissues of the spinous fossa. As soon as the incision was made and it was exposed we saw the mistake. It proved to be a tumor that grew primarily from the shoulder-joint, and particularly from some part of the capsular ligament, crowding out from beneath the supra-spinous fossa and developing as large as a cocoa-nut upon the man's shoulder. The man had not consented to so radical an operation as entire ablation of the upper extremity, so only a temporizing operation was done; the removal of the tumor so far as external manifestations were concerned. He afterward had the nature of the growth explained to him and, after consulting with his friends, decided, in about three weeks, to submit to the operation. It was done; but he died fifty-six hours after the operation. He was slightly shocked by the operation, but recovered from that and for twenty-four hours was quite well, with only a slight elevation of temperature and pulse; he was then taken with delirium and died in a comatose condition.

I do not know exactly what was the cause of death, but I am inclined to think that it was poor policy to do this severe operation so soon after the primary interference. The man was still depressed and in great fear of the severity of the second operation. All these facts were against him. In this case the operation, after the method I have described as advocated by Paul Berger, I am sure was more quickly done, and with more satisfaction to the operator and, if he had lived, to the patient.

This second case properly comes under the head of secondary operations.

It is quite noticeable from the report read that the cases done by machinery are all reported as recovering, and it is questionable whether they have a place at all in the classification of this operation; because the deaths after such accident are not reported at all.

minute beings the lowest forms of the vegetable kingdom, classified them into bacilli, micrococci, and spirilla.

Although Pollender, in 1849, described fine rod-like formations as occurring in the blood of animals dead of anthrax, to Davaine (1863) belongs the honor of having first proven the causal connection of these bacteria with the disease, and we must therefore recognize in the latter the first discoverer of a pathogenetic microorganism. Then followed the well-known experiments of Pasteur and his school on anthrax and chicken-cholera, but still the advances of this new science were slow.

Bacteria had now been discovered in the blood and secretions of diseased animals, but they could not be demonstrated in the organs. Well-planned experiments had determined the exact conditions favorable or otherwise to the development of these minute organisms, and the wonderful resisting power of the spores had been demonstrated. The harmlessness of the diseased blood when the bacteria had been removed by filtration was known. Cultures had even been made, but it was almost impossible to prevent unwished-for guests from entering the test-tubes and contaminating their contents. The hay-bacillus was known, but with the imperfect methods then in use, it was difficult to distinguish it from the anthrax-bacillus, and hence arose the false and dangerous doctrine of the transformation of species, which caused good observers to teach that the former, perfectly innocuous though it is, could, under certain conditions, take on the virulent properties of the latter.

These difficulties were dissipated almost at one stroke when the wonderful genius of Robert Koch popularized the use of the homogeneous immersion, when it gave us his improved methods of isolated staining of bacteria in the tissues, when it pointed out the correct way of using the Abbé condenser to wipe out the "structure-picture," and bring into bold relief the "color-picture" when it devised the solid culture-media, the boiled potato, the meat-peptone-gelatine, the agar-agar, the blood-serum. Now we can take a fluid containing a dozen different varieties of microbes, plate it out, so that as many different kinds of colonies spring up peacefully side by side, each containing only one kind of bacteria, and finally we can transplant a colony of each kind into a separate test-tube, where it will develop into a pure culture, and we can then study at leisure its distinguishing characteristics as to rapidity of growth, shape of colony, demand for or abhorrence of oxygen, formation of gas, color, odor, liquefaction of gelatine, etc., and when we inoculate an animal with such a culture, we know that we are experimenting with only one kind of microorganism. Can we help admiring that rare combination of brilliant genius, impartial self-criticism, and unerring judgment,

THE PRESENT STATUS OF BACTERIOLOGY.

BY GEORGE MINGES, M.D.,
OF DUBUQUE, IOWA.

From the time of the first discovery of bacteria by Leeuwenhoek during his examinations of saliva in 1675, bacteriology made no progress until about the middle of the present century, when Ehrenberg described several varieties of microorganisms, and Cohn, recognizing in these

which has thus far always allowed Koch to triumph over his opponents?

We now know that the theory prevalent only a few years ago, that bacteria occurred everywhere, even in the normal blood and secretions, was erroneous. Only in those cavities of the body which communicate with the external air do they occur under normal circumstances. The mouth, nose, intestinal tract, vagina, contain them in great abundance, but the uterus and bladder are free. Even in the puerperal state, when there is no fever and the hand or instruments have not been introduced into the uterine cavity, no bacteria are found above the internal os. Wherever there is decomposition, bacteria are found, but in dry gangrene, when there is no wound to admit them, they are absent in the dead member.

Now as to the pathogenetic bacteria, Koch demands a microorganism to fulfill the following three conditions before it can be with certainty recognized as the cause of a disease: 1. It must always occur in that disease; 2. It must be found in no other disease; 3. Inoculations with pure cultures must always produce that disease. In certain affections of the lower animals, these three conditions are fulfilled, as for example, anthrax, chicken-cholera, malignant œdema, septicæmia of mice, septicæmia of rabbits. It is different with the infectious diseases of our own race. But few of our contagious maladies are transmissible to the lower animals, and experiments upon man cannot often be made.

Among the infectious maladies common to man and the lower animals are wool-sorters' or rag-picker's disease and tuberculosis. The former is identical with the anthrax of the herds and occurs among those who handle cattle or their products, such as butchers, drovers, wool-sorters, tanners, comb-makers, etc.

Tuberculosis is very common among our domestic animals, cows, horses, rabbits, guinea-pigs, cats, and may also occur in fowl, but rarely in dogs or goats. The cause of this disease has been demonstrated with almost as much certainty as Euclid's celebrated "*pons asinorum*." Koch's original culture of 1882, has been inoculated from tube to tube, so that last year it had reached the 82d generation, and this last culture, which could not contain a trace of the original caseous matter, was just as virulent to animals as the first. We may not hope to realize the sanguine hopes of enthusiasts of finding a remedy which is a potent poison to the bacilli, and at the same time innocuous to their host; but the discovery of the bacillus tuberculosis is of importance in the diagnosis and the prophylaxis of the disease. "Without bacilli no tuberculosis." The writer has himself been able to diagnosticate tuberculosis from examination of the sputa when physical signs were still negative; and we can all appreciate the importance of recognizing the disease in

its earliest stages. This discovery has also demonstrated the identity of tuberculosis in man, cattle, the ape, the fowl, the guinea-pig, the rabbit, although the gross pathological changes are alike in no two of the animals mentioned. Although on account of the great diffusion of this dread scourge in the animal kingdom, we can never hope to totally eradicate it, we can, nevertheless, by destroying the bacilli contained in the sputa with boiling water, by boiling all cow's milk, by making it a penal offense to sell infected meat, by killing all tuberculous cats, fowl, etc., restrict its ravages to a minimum. The experiments of Cornet show that infection with tuberculous sputa could generally be avoided with ordinary care. In almost 400 inoculations with the dust of rooms inhabited by tuberculous patients, he found that when patients expectorated only into vessels, the dust was harmless, while when the sputa were also deposited in handkerchiefs and upon the floor, the dust of remote parts of the chamber contained dried bacilli, and killed the animals.

In 1883 Koch described a comma bacillus which, in its relations to Asiatic cholera, fulfilled the first two conditions demanded by the discoverer. Then there arose a powerful opposition. It was urged that the bacilli never occurred in the blood, while the symptoms of the disease pointed to a grave systemic affection. Koch's explanation was that the constitutional symptoms were due to the absorption of a strong poison secreted by the bacteria. After numerous experiments Koch succeeded in rendering guinea-pigs susceptible to the comma bacilli by neutralizing the gastric juice with alkalies and restricting the peristaltic action of the bowels with opiates. For the last link in the chain of evidence, the experiment on man, we are indebted to the carelessness of one of Koch's pupils, who, while working with cultures of the comma bacillus, contracted the disease. But even those who still doubt that Koch has found the actual cause of cholera, must admit that, since the discovery of the comma bacillus, the ravages of the dread scourge have been limited in Europe to Spain and Italy, while the more intelligent nations bordering right on these countries, and which before had always been involved in the epidemics, have escaped.

Among the bacteria to which we can ascribe pathogenetic properties with great probability are the spirochæta of recurrent fever, discovered by Obermaier; the gonococcus of Neisser, and Eberth's typhoid bacillus. All these fulfil Koch's first two conditions, but the first cannot be cultivated in our present media, the second only in human blood-serum, and the last, although easily cultivated, does not readily affect the lower animals. The diagnostic value of the gonococcus has often been proven, and the writer has been able by microscopic examination to demonstrate the gonor-

rhœal nature of a purulent ophthalmia, although the presence of urethritis had been denied.

The well-known preventive qualities of vaccination, although based purely on empirical knowledge, soon gave birth to the hope that prophylactic inoculations might be practiced also for other infectious diseases than variola. Pasteur has succeeded in producing an attenuated virus of anthrax and of chicken cholera. He heats the pathogenic bacteria to a temperature just below that which would kill them, and subsequent generations of such debilitated microbes inherit the diminished virulence and protective properties of their ancestors. The practical value of this discovery has, unfortunately, been very much diminished by Koch's observation that the preventive inoculations of anthrax did not render the vaccinated animals refractory to infection from the alimentary canal, which is the gate at which the disease enters in the great majority of cases. Similar inoculations have also been practiced to a considerable extent on man against cholera by Ferran, and against yellow fever by Domingo Freire, but these experiments, although now looked upon with more favor by eminent bacteriologists than they were in the beginning, are not yet numerous enough to warrant definite conclusions. Some recent experiments would seem to indicate that the ptomaines secreted by the bacteria, or even the salts contained in the urine of animals suffering from certain infectious diseases, can be used successfully for protective inoculations.

I have now attempted to briefly outline the great progress made by this new science within the last six years. Over 200 varieties of bacteria, I believe, are now known. But very much still remains to be done. It is easily understood that the differences between these minute beings, situated at the very boundary lines of the still visible, must be very slight. Although Koch has demonstrated so well the features distinguishing the comma bacillus of Asiatic cholera from that of cholera nostras, that even the novice can recognize them, still other bacteria remain so similar to each other that the keenest expert cannot predict their opposite effects upon the animal economy. To mention but one example: Löffler has described, under the name diphtheria bacillus, a micro-organism causing in animals the most rapidly fatal septicæmia; but, with an impartiality worthy of respect, he does not claim it to be the real cause of the disease, because he also found apparently the identical bacillus, with the same virulent properties, in one out of twenty normal fauces. Another observer cultivated from the pharynx of various healthy persons, and from those affected with true diphtheria, with scarlatina and rubeolar angina, a microbe resembling very closely in every respect, not only morphologically but also in its colonies in different cul-

ture media, the true diphtheria bacillus, which, however, is perfectly harmless when inoculated into animals. And more than this, between these two extremes all gradations of toxicity are found, some producing but a slight local infiltration, others large abscesses, others again severe necrotic changes, others still killing only young animals and sparing adults. On the other hand, the same micro-organism, under varying conditions, may so change in size and shape as to successfully hide its identity.

Let us, then, hope that this new science, so auspiciously cradled by the French school in the 50's, so grandly nursed into vigorous youth by the Germans within the last six years, may continue to develop as rapidly in the future as it has done in the past.

LIGATION OF FEMORAL ARTERY AND VEIN FOR STAB WOUND.

BY HAL C. WYMAN, M.S., M.D.,

PROFESSOR OF SURGERY IN THE MICHIGAN COLLEGE OF MEDICINE AND SURGERY, DETROIT.

Miles D., æt. 19 years, a clerk, in good general health, was stabbed in the middle of the thigh with a pocket knife. The knife blade was about three inches long and three-fourths inch wide. It penetrated its length and divided the left femoral artery and vein beneath the sartorius muscle. The hæmorrhage was sudden and appalling. The boy who struck the blow was spattered with blood, notwithstanding the wounded thigh was enveloped in pants and drawers. The wounded boy had knowledge and presence of mind sufficient to thrust his finger into the wound, and so restrain, in a measure, the hæmorrhage until a physician could be summoned and arrive.

Dr. F. W. Owen, of this city, responded to the call, and reached the patient within five minutes after the wound was received. He at once corded the thigh, compressing the femoral artery in Scarpa's triangle, summoned the Emergency Hospital ambulance, and had the patient taken to that institution, where I saw him a few moments later.

He was then deathly pale, too exhausted to tell me how the wound occurred, and fainted when his head was raised from the level of his body. His pulse was too rapid and weak to count, and so compressible that the most delicate touch was necessary to detect it at the wrist. The corded thigh gave him great pain. He was ordered water and beef-tea freely for an hour. When his pulse and strength were better, chloroform was given. The wound was traversed by an incision about three inches in length along the internal border of the sartorius muscle. The sheath of the femoral vessels was revealed by turning aside the sartorius muscle. The stab-wound was shown to

have transfixed the sheath, and to have divided the femoral artery, and to have very nearly divided the femoral vein. The ends of the artery had retracted, so that the cut surfaces were about one inch and a quarter apart. The wound in the vein was open like a wide V, three-fourths inch wide at its widest part. Ligatures of carbolized silk were applied to both distal and proximal ends of artery and vein. Then the muscle was turned back, a drainage-tube inserted, and the wound closed with interrupted sutures.

The pressure had been in the meantime removed from the arteries by taking off the cord which Dr. Owen had tied tightly around the thigh to stop the hæmorrhage, and the impulse of the beating artery against the ligature on the proximal end of the artery was plainly felt by my finger. All the ligatures (four in number) were applied about one-half inch from the cut surface of the vessels. The wound was dressed with antiseptic gauze cotton and bandages sterilized by corrosive sublimate and heat. The leg and thigh were enveloped in cotton, and laid on a pillow surrounded by hot bottles. The leg was elevated to favor return circulation.

The next day, December 11, 1888, the toes were warm and movable. The leg and thigh below the wound were swollen moderately. The pulse was 120 and weak, the temperature 102° F.

December 12 there was oozing of bloody serum from between the sutures. The leg, thigh and foot were warm, but more swollen. The spaces between the sutures gaped and oozed. Pulse 120, temperature 101° . The patient's bowels moved. His tongue was furred, his mind clear, and his disposition hopeful and kind. He told how the wound was received, and how quickly after all looked dark to him; how his head whirled.

Dec. 13 some of the sutures gave way with the swelling of the thigh and leg. The calf of leg was very hard. The wound produces pus along its edges. Care is taken that dressings are not applied so tight as to interfere with venous circulation. No swelling or tension of thigh above the point of ligature of artery and vein. Pulse continued weak and rapid, appetite good, kidneys acting normally. Temperature 101° , once 100° . The great toe is cold and looks pinched and shrunken. A pin thrust into it is not felt. It is white, like if frozen.

Dec. 14. General condition good. Patient says he has no pain, and a good appetite. Slept well. The temperature and pulse are 102° and 120. His tongue trembles but his voice is strong and a trifle shrill. The wound is suppurating moderately. The great toe is black on its inner border and continues cold and without sensation; the other toes are paler and without sensation.

Dec. 15. Bowels moved naturally. Has eaten well, but with less relish. Has mild delirium after sleep. Pulse 120, temperature 103° . Is

restless. Great toe and two next toes quite black and cold. Instep and arch of foot warm and sensitive. Great toe has mortified look. No sign of demarkation. Swelling of leg and thigh less. Calf not so hard, tongue shaky, hands nervous.

Dec. 16. Temperature 101° in A.M., 105° in evening. Pulse remains in the same weak and rapid condition. Gangrene has extended to base of first metacarpal bone, and slopes down across the foot to little toe. Patient does not take food well. Is taking freely of iron and quinine.

Dec. 17. Gangrene has extended about half inch further up the toes and foot. Temperature 104° , pulse 120. Wound is granulating. Swelling less in leg and thigh; all feel warm except toes. No defined line between cold and warm, dead and living tissue. More delirium; tongue furred, appetite gone. Takes milk and gruel. Urine muddy.

Dec. 18. General condition unchanged. More of the foot dead. Cotton and artificial warmth still applied to leg, etc.

Dec. 19. Temperature reached 106° , pulse more rapid and feeble. General condition worse; foot and leg unchanged.

Dec. 20. Temperature 101° , pulse 120. Patient has taken freely of whisky, iron and quinine. Bowels moved. No appetite, but takes food. Condition otherwise unchanged.

Dec. 20. Gangrene has run up over instep to ankle. Does not feel my finger on the bottom of his foot, but is sensitive about the malleoli. Temperature 102° , pulse 130. Same treatment.

Dec. 21. Temperature 105° , pulse 130. Respiration hurried and short. Delirium at times, but is easily roused out of it. Bowels and kidneys acting well.

Dec. 22. Temperature 105° , pulse 130. Other symptoms same as yesterday. Is much weaker. Leg and foot unchanged. Wound discharges thin pus.

Dec. 23 and 24 patient continued to grow weak, Began to raise the larynx with each inspiration; and died on the evening of the 24th, fifteen days after the wound was received.

The toes and adjacent part of foot had blackened and mummified. There was no line of demarkation. There was no softening of the parts adjacent to the wound. The gangrene was limited to the parts below the ankle, with some discoloration of the anterior aspect of the lower third of the leg.

Death in this case was due, I think, to the hæmorrhage, and not to the changes which resulted from the ligation of the artery and vein.

2. The fever was due to the hæmorrhage—exhaustion fever—and not to sepsis from the wound or the dead toes or foot. There was fever before the toes were cold, or discolored, or dead.

3. No blood worth speaking of was lost while applying the ligatures to the artery and vein. At

no time after the patient reached the hospital was he sufficiently recovered from the shock and hæmorrhage as to make amputation of the thigh a safe procedure.

4. It would be interesting to know what peculiar ferment, bacterium, chemical, or fever factor is liberated or confined in the system after severe hæmorrhages. It certainly seems to be set in action by the hæmorrhage, and appears to be wholly independent of external influences.

A CASE OF HERNIA OF PARTURIENT UTERUS THROUGH THE LINEA ALBA.

Read before the Medical Society of the District of Columbia, October 31, 1888.

BY CHARLES E. HAGNER, M.D.,
OF WASHINGTON, D. C.

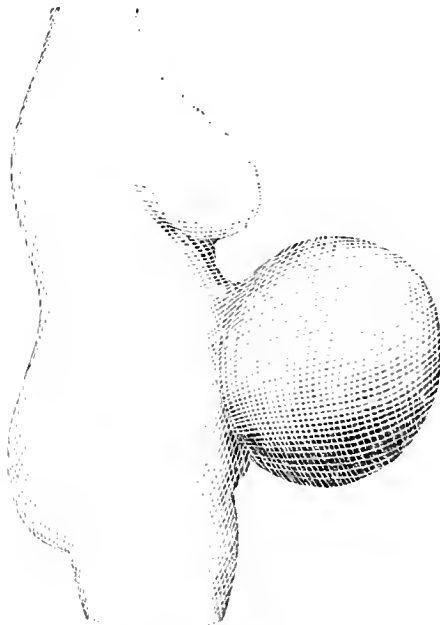
In July, 1884, I delivered a primipara, Mrs. Blank, (after a prolonged labor) of a full term female child. Forceps were used, with slight laceration of the perineum, which was immediately stitched up and healed perfectly. She made a good recovery, and showed no signs of ventral hernia.



In March, 1886, Mrs. B. was delivered of a second full-term female infant without forceps, the perineum remaining intact, the labor being a short one (six hours), and perfectly normal. Within three months patient called my attention to a "lump" about the umbilicus. Upon examination I found an umbilical intestinal hernia, about the size of an egg, which was readily reduced, the opening being large enough to permit

the introduction of the end of the finger. An abdominal truss was ordered which retained it perfectly. The patient wore this until she was taken in labor with her third child, in Feb., 1888.

On Feb. 8, 1888, at 10 A.M., I was called to see Mrs. B., and found her in the first stage of labor, os dilating and pains frequent. I remained an hour, when, everything progressing normally, I left her for an hour and a half. Upon my return found the bag of waters ruptured, patient in bed and in active labor; os fully dilated, head engaging L. O. A. The labor progressed normally and actively for about an hour and a half, examinations being made from time to time. Suddenly the patient after a very violent pain, called out and said: "Oh doctor, I am tired out, I can no longer bear down." It had been about ten minutes since my last examination. On approaching the bed, I observed that the abdominal tumor, heretofore perfectly normal, presented a peculiar appearance, being much more prominent, and seeming to project at right angles to the patient's body, she lying on her back. Upon lifting the sheet, I was startled to find that the uterus had left the abdominal cavity, and was covered only by the skin, which was very tightly stretched, and seemed as thin as tissue paper.



The uterine vessels were clearly seen, also the contractions, when a pain came on. The head at this time was in the vagina, and I immediately saw that the woman was correct in saying that she could make no expulsive effort. Notwithstanding the uterine contractions, which were regular, and strong and visible, the head making no advance, and the patient becoming exhausted, I immediately applied the forceps and delivered

the child. There was no difficulty in applying the forceps, as the head was well down, but the impossibility to restore the uterus to its normal position, and its tendency to fall to one side or the other, made it necessary to have the nurse support it in the median line until the child was extracted. It proved to be another fine healthy girl. The placenta was quickly extracted by the hand, as the patient seemed exhausted, and I was most anxious to terminate the labor.

As soon as the placenta was removed there was little trouble in replacing the uterus through the opening in the walls of the abdomen, it having thoroughly contracted and reached its proper size. A suitable bandage was applied, and the woman made a good recovery. It is surprising to find how small an opening there seems to be in the abdominal wall at present; the lady was in my office to-day; she is wearing the abdominal bandage she wore before her last pregnancy, and says she suffers no inconvenience. I had not seen her before for several months, and sent for her so that I could report her present condition.

1507 H. St., Washington, D. C.

MEDICAL PROGRESS.

EIGHTY CASES OF CHOREA.—At the meeting of the Royal Medical and Chirurgical Society on January 8, DR. W. P. HERRINGHAM read a paper on "Eighty Cases of Chorea: Antecedents, Family History, State of the Heart, and subsequent History," of which the following is a summary. Antecedents: Acute rheumatism preceded the attack in nineteen cases, immediately in four, at some interval in fifteen. It accompanied the chorea in two cases. Pains in the joints preceded the attack in fifteen cases, accompanied it in one case. The total number of cases in which rheumatism could be traced was thirty-seven. Injury, shock, or violent burst of emotion preceded the attack in six cases. The interval was never greater than two days. Hard mental work or worry was found in twenty cases. These influences were not mutually exclusive, since all those classed under injury, shock, or emotion could alone be considered as exciting, the others only predisposing causes. In twenty-five cases none of them could be traced, and of these fourteen were first attacks. Nearly all the patients were delicate; headaches and indigestion were the most common complaints. Family history (calculated from parents, brothers, and sisters only): Rheumatic fever had occurred in twenty-five out of seventy-five families, seventeen of which belonged to thirty-four patients of the rheumatic classes, and the remaining eight to forty-one in whom there was no history of rheumatism. Chorea had occurred in twelve families,

nine of which were also rheumatic. State of the heart (throughout): Natural in ten, uncertain (that is, doubtful) endocarditis in twenty-five, certainly diseased in twenty. Signs of disease developed during observation in eleven cases, and signs which were at first present vanished during observation in four. Thirty-seven cases were seen again, usually at an interval of two years or over. For the most part they presented the same state as before. Of the twenty-five doubtful cases two had become healthy, seven appeared certainly diseased. Of the eleven cases which developed signs during the attack of chorea, five were re-examined, and of these two were natural, while three gave good evidence of disease. This last was important, as tending to show direct influence of chorea upon the heart. The following conclusions were drawn: 1, that a large number of choreic patients were liable to rheumatism; 2, that choreic patients were nearly always of a delicate constitution; 3, that chorea was sometimes directly caused by emotion; 4, that chorea might cause permanent heart disease; 5, that it also gave rise to signs of heart disease which were not permanent.

DR. A. E. GARROD, at the same meeting read a paper "On the Relation of Chorea to Rheumatism, with Observations of Eighty Cases of Chorea," sixty-one of the patients being females, and only nineteen males. Forty-nine were suffering from first attacks. The average age of the female patients was considerably higher than that of the males. There was a history of rheumatic fever in the near relations of twenty-six patients, of rheumatism with swollen joints in those of three, and of rheumatism in three more, making a total of thirty-two, or 40 per cent., with rheumatic family histories. It was pointed out that the tendency to chorea was far more marked in some rheumatic families than in others, and examples were quoted illustrating this point. The total number of cases in which there was a personal history of rheumatic manifestations other than endocarditis was thirty-six or 45 per cent. In fifteen of these there was a definite personal history of rheumatic fever, in nine of rheumatism with swollen joints, in one of joint pains, confining the patient to bed, and in nine of joint pains only. One patient had nodules but no arthritis, and one had acute pericarditis. It was shown that the same patient sometimes had an attack of chorea with joint pains only, and a later attack with well-marked rheumatic fever. Evidence was brought forward to show that some cases in which there was no family history of rheumatism, and no personal history of joint pains were nevertheless of rheumatic origin, cases being quoted of rheumatic patients who had previously suffered from chorea, of the development of erythema nodosum and arthritis in the course of apparently non-rheumatic chorea, of

chorea with endocarditis and nodules without joint pains, and of the association of acute pericarditis with chorea. In fifteen cases the onset was ascribed to fright, but in some instances inquiry showed that the fright followed the onset of the chorea. A definite murmur was heard in forty-five cases, or 56.25 per cent., and in six others the first sound was murmurish. The percentage of murmurs was naturally highest amongst those with personal histories of rheumatism, but was lowest amongst those with family history only. In some instances the murmurs developed under observation. The opinion was expressed that the endocarditis of chorea was probably always of rheumatic origin, but that we had no evidence to show that all chorea was of rheumatic origin, a considerable number of cases being probably due to emotional and other causes.

DR. CHEADLE said that there was no need for any apology for bringing up the subject again, as it was one which had not as yet been at all settled. It was leading to the conclusion that rheumatism was something much larger than arthritis. He thought Dr. Herringham had in some points based his inquiries on too narrow a definition of rheumatism, and also he was obliged to neglect those cases in which rheumatic arthritis followed chorea. Truly rheumatic symptoms in children were often very slight and transitory. He had a child admitted with chorea under his own care in St. Mary's Hospital, in whose history and symptoms careful examination had failed to detect any sign of rheumatism on admission, and yet in whom, after four or five days, slight rheumatic arthritis came on, and lasted only forty-eight hours, but yet was quite distinct under the circumstances it was then in, but it would have never been noticed in the homes of the poor. He was surprised that Dr. Herringham had found fright or emotion a cause in only six cases. He had himself noticed the case of a rheumatic child who had had chorea, and had recovered completely; it was taken to the pantomime, and next day it was in violent chorea again. A rheumatic boy at Charterhouse, after recovering from a first attack, got it back again from the violent emotions of a schoolboy's quarrel. Chorea went along with an unstable nervous system, and in a family it was very often noticed that the unstable one was the rheumatic. He should have expected to find some reference to the minor rheumatic symptoms in Dr. Herringham's paper—such as erythema and rheumatic nodules; both were common in rheumatic chorea. In placing headaches among the commonest of minor affections in chorea, he was glad to see Dr. Herringham agreed with the Collective Investigation Reports. As to the larger generalizations about the connections of chorea, he was himself inclined to think that much more chorea was rheumatic

than was generally allowed; in a choreic case the absence of previous arthritis was not a proof against rheumatism, for it might have been overlooked, or it might come after the chorea.

DR. SANSON wished to confine himself to one question: Was fright-chorea always rheumatic chorea? From his own experience he should certainly answer, No. Dr. Herringham seemed to him to favor the theory of the pan-rheumatic origin of chorea. He admitted, of course, that rheumatism was a cause in many cases, but he thought there was definite proof that there were also cases arising in non-rheumatic patients from fright only. He believed that in some figures brought forward by Dr. Stephen Mackenzie these amounted to as much as 15 per cent. As an example he cited the case of a child under his care in the London Hospital, who, up to the time of the onset of the chorea had had no disease at all. It had been in a burning house, and had suffered intense fright. The heart was put into a state of palpitation, after which chorea was developed. There was no connection with rheumatism. If an origin of chorea was sought for which was *a priori* probable, it was easy to see that fright would supply such a cause for the phenomena noticed in the heart. The first thing that followed on fright was pallor—an inhibition of the heart, with local contraction of the arterioles. After that there was a violent reaction and overaction of the heart, such as might be quite enough to cause injury to the valves. He wished to emphasize two different classes of change found in the choreic heart: first, those due to rheumatism; and, secondly, a smaller group, producing a quite different murmur, sometimes even an aortic diastolic murmur, which was transitory. As for any choreic action of the musculi papillares, he thought there was no need to dwell on its impossibilities, for it had been abandoned long ago. On the whole, however, he thought there was a very strong case for an endocarditis which was not rheumatic.

DR. STURGES was very sorry to see the pan-rheumatic theory of chorea gaining ground. It was unfortunately a point upon which physicians were apt to form themselves into parties as if they were parliamentary politicians. Dr. Cheadle had stated the view of the rheumatic party strongly, and he hoped he might be allowed to put forward some other considerations. Dr. Herringham, in his eighty cases, had only found the immediate connection of acute rheumatism in four cases; less even than in the cases attributed to shock or fright. Rheumatism as a cause was often too far to seek. Dr. Cheadle had mentioned cases in which rheumatism had followed chorea, but he had not himself found anybody attributing the causation of rheumatism to chorea. In the case of children, it was often very difficult to find out when they had had rheumatism, and

yet very easy to hear of their chorea, for many of the parents dreaded the disease unduly, and asked constantly if it was "going to the brain." The relationships of rheumatism and chorea were differently estimated in different countries. In Germany rheumatism was looked on as a trivial cause of chorea. In France chorea was one of the manifestations of rheumatism. In the United States, Dr. Osler in some very careful statistics had come to the conclusion that in only 15 per cent. of the cases of chorea was there any relation to rheumatism. It was a large and at present obscure question whether there was some deep connection between joint pains and nervous disease. Certainly in some cases of rheumatic arthritis the exciting cause was not external cold; and again there were a few other cases where nerve strokes produced joint pains first and chorea afterwards. In the case of a little child just under 3 years old under his care, the primary cause of disease had been the quarrelling and fighting of its father and mother, and this had produced first chorea and then rheumatism. In the first stage of this nervous chorea they had emotion, then motion followed. The important point was to stop it before it came to motion. It was often noticed by parents and schoolmasters how often a child was stupid or generally out of temper when it was going to have chorea; that was the important time to recognize, for then it might be arrested; after that they had failed to gain much control over it.

DR. BARNES thought that in any general discussion on chorea its relations with pregnancy ought not to be neglected. When chorea had occurred in a girl it sometimes comes out again in pregnancy with great violence, and occasionally turned into insanity, or ended fatally. To grasp its nature completely, he thought that even a larger view of its pathology was wanted than what had been taken that evening. Fright, he admitted, was a serious condition and an absolute cause. Whether pregnancy was a cause of valvular disease he admitted that he was not pathologist sufficient to affirm or deny absolutely.

DR. STEPHEN MACKENZIE agreed with much that Dr. Cheadle had said, but thought that to convince other people than oneself that rheumatism was the cause of chorea in all cases needed more precise evidence than it was possible to obtain. From the survey of the facts in Germany, France and the United States, it was clear that rheumatism was only one factor in the causation of chorea. Chorea, however, was far more nearly connected with rheumatism than any other nervous disease. He must remind Dr. Sansom that it required a very special nervous disturbance to bring on chorea. Epilepsy did not bring it on, nor tetany. He was glad Dr. Barnes had brought to the front his point that chorea in a pregnant woman was a very serious malady. But

many pregnancies in women who had had chorea in childhood might be passed through without recurrence of chorea; some special cause was needed to revive it.

DR. ROBERT LEE had come to the conclusion that not much could be gained from the study of clinical tables. What was this chorea they were discussing? It was nothing more than a group of symptoms, not a disease. No group of symptoms could cause heart disease. We could find out very little about the origin of chorea until we could tell whether all choreas were the same. Emotional cause in the younger children could not be neglected; that was just the attraction in the study of the disease.

DR. HERRINGHAM said he had been taken to task for using rheumatism in too narrow a sense as merely an arthritis, and neglecting such points as erythema, rheumatic nodules, and others; but he had deliberately abandoned any attempt to learn accurately of such things from the out-patient class from which he had drawn his statistics. Dr. Sansom had spoken of an effect on the heart as the first result of fright, but would he not on reconsideration have to go back to an effect on the nervous system influencing the heart as even prior to that? To Dr. Barnes he was much indebted, and wished there were many more of his colleagues in his branch of practice who took an equally broad view of pathology. It seemed almost necessary to remind Dr. Lee that all diseases were collections of symptoms. Chorea, he quite admitted was no exception to that rule; nor was rheumatism, and yet Dr. Lee spoke of rheumatism as a thing well known enough.

DR. A. E. GARROD thought he should just guard himself by reminding one or two speakers that he had never said that all chorea was rheumatic. Dr. Sansom had spoken of fright as a direct cause of valvular disease of the heart. He should ask Dr. Sansom if that were so, where he would find a case of heart disease due to fright which was entirely separate from chorea. Such questions had been often asked, and were very seldom answered. He was himself quite inclined to take the view of rheumatism as a very general disease, of which arthritis was only one symptom.—*Brit. Med. Jour.*, Jan. 12, 1889.

THE DIET IN CONVALESCENCE FROM TYPHOID FEVER.—In the course of an instructive paper on the management of this stage of convalescence in typhoid fever, Dr. J. H. HUTCHINSON says (*The University Medical Magazine*) that his own experience has been in accord decidedly with those who have found a too early return to solid food prejudicial to the speedy recovery of the patient. He has long since come to agree with Sir Thomas Watson that the management of the convalescence of typhoid fever is scarcely of less importance than that of the fever itself. It is certainly

not less difficult. A part of this difficulty arises from the impossibility of convincing the patient's friends that his voracious appetite cannot be fully indulged without danger. Dr. Hutchinson's own custom has been to continue the administration of milk, which forms the almost exclusive diet of his patients in the febrile stage, in cases in which it is well borne—and there are few in which it is not—for three or four days after the occurrence of normal evening temperatures, with the addition of animal broths. At the end of this time he gives eggs (soft boiled), the juice of rare meat, milk toast and other farinaceous articles of food. At the end of a week the soft part of oysters and fish are added to this dietary, and at the end of ten days the light meat of broiled chicken, and at the end of two weeks, butchers' meat. All these articles of food are given in small quantities at a time, but may be repeated at first once or twice, the latter oftener during the day. If milk be given in sufficient quantity—say 6 ozs. every two hours—it will fully meet the wants of the system. The only objections that can be possibly urged against this plan of treatment are that the continued use of milk is tiresome to the patient, and that it produces constipation. The first objection is of little moment, if there are dangers attending the administration of other kinds of food; it may be obviated by giving, after the first few days, at the same time with the milk, some of the farinaceous articles of food which will make it more acceptable to the patient, and will at the same time prevent, to a certain extent, its tendency to produce constipation.—*The Dietetic Gazette*, January, 1889.

TREATMENT OF INTERNAL HÆMORRHOIDS BY INJECTION.—In the *Illustrated Med. News*, October, 1888, a leading article recommends the further trial of treating internal hæmorrhoids by injection. The best plan is to use strong carbolic acid, which is applied with an ordinary hypodermic syringe in the following manner: The bowels having been thoroughly cleared out by an enema, and the hæmorrhoids well protruded, the patient is placed on his hands and knees, or directed to bend over a chair. From two to five minims of the carbolic acid are then injected slowly into the centre of each pile. After the injection has been made the hæmorrhoids swell rapidly, and it is desirable to return them within the sphincter as soon as possible, and the patient should be told to push up any portion which may subsequently protrude. The bowels should be kept quiet for twenty-four hours, and for the next few days gentle aperients should be used. If the rectum be examined with the finger a week or so afterwards, it will be found that there are indurated swellings corresponding to the points of injection; these shortly subside. Some observers direct that only one hæmorrhoid be treated at

each sitting, but others prefer to inject all at one sitting. Sometimes a second injection is necessary after a fortnight; but it is seldom necessary to make more than two injections to cure a pile for many years. It is also useful to give an astringent ointment to be applied before and after the daily motion, for a few days. This treatment requires no anæsthetic, and enables the patient to go about his usual work at once, and is rarely followed by any complications.

THE RAPID CURE OF ANAL FISTULA.—DR. LONGO concludes his thesis with the following statements (*Bull. Gén. de Thérap.*, November 15, 1888):

1. The method ordinarily employed in the cure of anal fistula, while not entirely exempt from risk, necessitates constant attention for at least thirty days, and predisposes to relapse.
2. From the employment of the antiseptic method, a method of cure is possible in which the result may be attained in a much shorter time.
3. These processes, already employed with considerable success, consists essentially in the entire excision of the fistulous structure and the reunion by the first intention of the outer surfaces.
4. Cure is ordinarily obtained within ten days.
5. The majority of fistulas are amenable to this treatment, which is exempt from danger, which is usually not followed by relapse, and whose employment is not accompanied by any insurmountable difficulties, with the single exception of the rigorous application of the antiseptic method.
6. When the fistulas are united, accompanied by extensive development of pathological tissue, or when their rectal orifice is situated very high up, or when the fistulas are accompanied by hæmorrhoids,—then only is this method not applicable.—*Therapeutic Gazette*, January 15, 1889.

TUBERCULOSIS FROM CONTAGION.—At the meeting of the Finnish Medical Society, at Helsingfors, Sept. 22, MR. RUNEBERG reported a case of tuberculosis undoubtedly caused by contagion. The patient was a peasant, 39 years of age, who had an untainted family history, and showed in his own constitution no tendency to phthisis. Two years ago he was in perfect health; but the symptoms appeared a little after the death of his wife from consumption. He had occupied the same bed and nursed her during an illness of several years.—*London Medical Recorder*, Jan. 21, 1889.

LACTIC ACID IN TUBERCULOUS DIARRHŒA.—SÉGARY and AUNE recommend lactic acid, 2, 6, or 8 grams in twenty-four hours, in the treatment of diarrhœa of phthisis. They report 9 successful cases.

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SATURDAY, MARCH 2, 1889.

MORBID ANATOMY AND PATHOLOGY OF
CHRONIC ALCOHOLISM.

The discussions relating to these important topics by the members of the Pathological Society of London, commenced on December 4, 1888, have brought prominently before the profession many facts of very great importance. Dr. Joseph Frank Payne, Vice-President of the Society and Physician to St. Thomas' Hospital, opened the discussion, with Sir James Paget in the chair.¹ After a brief historical introduction he asks "in what sense is alcohol a poison?" Defining a poison to be "a substance capable of injuring the body, either by causing damage to the tissues or by causing functional disturbance," he arranges all poisons into two classes, namely: "tissue poisons and functional poisons." He shows that alcohol, taken internally, is carried by the blood to all parts of the body, and not only speedily produces derangement of nervous functions, but also acts directly on the tissue elements, "producing degeneration, or ultimately necrosis, of the mucous membrane of the stomach, liver-cells, nerve fibres, nerve cells and muscular fibres;" and when the action is persistent or chronic it results in hyperplasia of connective tissue, fibroid changes, fatty degeneration and fatty infiltration. He concludes by stating that "the action of alcohol on tissue or tissue elements is threefold: 1, as a functional poison; 2, as a tissue poison or destructive; 3, as a checker of oxidation."

Both Dr. Payne and Dr. Lionel Beale claimed

that the structural changes found in the liver from chronic alcoholism involved not only hyperplasia of the connective tissue, but also essential atrophy of the liver cells, and presented microscopical sections apparently sustaining their view.

Dr. George Harley, who followed Dr. Payne in the discussion, said: "The visible lesions produced in the digestive, circulatory and urinary organs by an excessive use of alcohol had been long recognized and carefully studied. The thickening of the mucous coats of the stomach, the hypertrophies, the indurations, the fatty amyloid and cirrhotic degenerations of the hepatic tissues; the atheromatous changes in the blood-vessels, and consequent hæmorrhages and apoplexies; the hypertrophy of the heart's tissues, and the dilations of the cavities: as well as the fatty and granular degenerations of the cortical substance of the kidneys, had long been recognized. These tissue-changes, however, formed but a small proportion of the morbid effects met with in practice, from the fact that for every drunkard there were fifty others who suffered from the effects of alcohol, in one form or other. Amongst them were persons who had never been intoxicated in their lives. Of this so-called class of moderate drinkers, neither our hospital statistics nor our national mortality tables took any account, and yet it was those very moderate drinkers who were in reality the most numerous class of alcoholic victims." He corroborated this statement by reference to the Registrar-General's tables of comparative mortality of those engaged in different industries, in which it was shown that the death-rate of men between the ages of 25 and 65, engaged as brewers, commercial travelers, innkeepers, publicans, wine, spirit and beer dealers, was six times greater from diseases of the liver, and nearly two times greater from diseases of the urinary organs and the circulatory system, than in farmers and graziers, drapers and warehousemen, gardeners and nurserymen. Another important item presented by Dr. Harley related to the effects of alcohol on the constituents of the blood. His experiments had shown that the addition of 10 per cent. of alcohol to fresh arterial blood changed its color, prevented its re-oxygenation and destroyed its power of producing hæmin crystals. The addition of only 5 per cent of alcohol, while making no visible change in the color, yet entirely destroyed the capacity of the corpuscles for further oxydization

¹ See British Medical Journal, December 8, 1888.

or purposes of nutrition; thus showing that alcohol in small quantities produces an asphyxiating effect on the blood itself. In other words, it lessens the processes of oxygenation and decarbonization of the blood that take place chiefly in the lungs.

The *Lancet*, January 26, 1889, in its leading editorial on the discussion in the Pathological Society, has the following significant statement: "What is eminently worthy of the attention of practitioners in this connection is the frequency of *tubercular* disease in cases of alcoholic paralysis. In fact, the association of chronic alcoholism in all forms and tuberculosis was brought out by almost every speaker, including Dr. Payne, who said truly that the *inaccurate* impression that habits of alcoholic excess were in any way antagonistic to tubercular disease must be regarded as swept away." In another paragraph it says, emphatically: "We have seen the demolition of the belief that alcohol is a preventive of tubercle." When, in 1860, we presented to the Medical Section of the American Medical Association, in session at New Haven, the results of six years' clinical study of all cases of tuberculosis coming under our observation in their relation to the use of alcoholic drinks, by which it was clearly proved that the use of such drinks not only exerted no prophylactic influence, but the reverse (see *Transactions of the Amer. Med. Association*, Vol xiii, p. 565, 1860), not a few of our contemporaries thought it sufficient to attribute our conclusions to "temperance fanaticism." Will they apply the same logic to the work of the London Pathological Society at the present time?

THE ILLINOIS REPORT ON MEDICAL EDUCATION.

The Secretary of the Illinois State Board of Health has just issued the "Report on Medical Education, Medical Colleges, and the Regulation of the Practice of Medicine in the United States and Canada: 1765-1889." It may be said that this is the most complete and the most encouraging report on medical education that has been issued in this country, and shows a marked and gratifying progress in the direction of a higher standard of instruction and of educational qualifications for the practice of medicine. There have been, and still are bars to the attainment of the desired

end; some of the obstructions have been removed, and others show signs of yielding; so that the prospects for the future are encouraging.

This Report embraces 267 medical institutions of all kinds in the United States and Canada—as against 252 in the Report for 1886—251 being in the United States. The total number of medical colleges now in existence, in North America (exclusive of Mexico) is 131, 118 being in the United States. In 1886 the number was 129, 117 being in the United States at that time. The number of extinct medical institutions is now 130—showing that a medical college may be founded but not established.

There has been an increase in the number of colleges exacting educational requirements for matriculation. In 1880 the number was 45, 44, in 1886, and is now 117. In 1880 but 22 colleges required attendance on three or more courses of lectures; in 1886 the number was 41, and 47 at present. There has been an increase in the number of colleges that recommend and provide for, but do not exact attendance on three or more courses.—53 in 1880, 48 in 1886, and 60 at present. Hygiene and medical jurisprudence claim a larger place in the medical college curricula than ever before. In 1880, 42 colleges had chairs of hygiene, and 61 had chairs of medical jurisprudence; in 1886, there were 110 chairs of each; while at present hygiene is taught in 117 colleges, and forensic medicine in 112.

Since the Report of 1886 the average duration of lecture terms has been increased. The average for all the regular schools is now 25.3 weeks. This average, it may be said, is cut down by the 17 weeks' term of the Medical College of Georgia, and the 19 weeks' term of the Woman's Medical College of Cincinnati. One hundred and fifteen schools now have terms of five months and more, against 110 in 1886-87; 66 have terms of six months and more, against 63 in 1887-88, and 55 in 1886-87. A number of colleges have signified their intention of requiring four years' study and three years' lecture course in the near future, in accordance with the resolution adopted in July, 1887, by the Illinois State Board of Health, "that the phrase 'medical colleges in good standing' . . . is hereby defined to include only those colleges which shall, after the sessions of 1890-91, require four years of professional study,

including any time spent with a preceptor, and three regular courses of lectures, as conditions of graduation," etc.

The Report shows that there has been a gradual increase in the number of matriculates since 1884-85, both in the United States and in Canada, while in the United States the number of graduates has been about the same. The percentage of graduates to matriculates has therefore steadily diminished in the United States, from an aggregate average of 36.3 in 1881-82 to 30.3 per cent. in 1887-88 for all schools of medicine. The percentage of graduates to matriculates in the regular schools has decreased from 37.1 in 1881-82 to 29.6 in 1887-88. For the last calendar year this percentage varied in the individual colleges in the United States from 6.6 to 52.1. The Report says: "The percentage of matriculates to graduates is kept at a high point largely by the colleges in Atlanta, Baltimore, Louisville, Nashville and St. Louis, and those in Indiana."

We may appropriately close this notice of the Report by quoting the following from the introduction. "The effects of some of the State laws regulating the practice of medicine, have now shown two things: 1. That there was and still is a necessity for such legislation. 2. That under this legislation the colleges that have failed to comply with the demand for better work, must improve their methods or shortly close their doors. A study of this report will show that while there is an increased number of medical institutions that have recognized their duties in this regard, there are still some which seem wedded to as low a standard as is at all compatible with even scant recognition by the medical profession. On the other hand, the improvements in the methods of instruction and in the practical facilities for study, not less than in the exaction of a preliminary test of fitness for the study of medicine—have been more marked during the period which has elapsed since the publication of the last report of the Board on this subject than during any similar period in the history of the country."

El Escolar Medico, the first number of which has been received, is a small monthly medical journal edited by a committee of the students in the school of medicine at Monterey.

CARBONIC ACID EXHALATION IN DIABETICS.

The quantitative modifications of the carbonic acid exhaled by diabetics under the influence of diet and medicines has been investigated by LIVIERATO, of Genoa, his results being published in *Archiv für experimentelle Pathologie*, Bd. xxv, S. 161. The experiments were made on three diabetic persons, one man and two women, one of whom was obese. All the patients had had diabetes for several years, and each excreted about 500 grams of sugar a day (twenty-four hours). The carbonic acid exhaled was measured by Pettenkofer's method; the patient respired in a cabinet. The amount of sugar was determined by Wild's polarimetre. Livierato's results may be summarized as follows:

In diabetics on ordinary diet the excretion of carbonic acid is diminished by more than one-half. On a mixed diet, but with starch excluded, consisting of meat, milk, cheese and vegetables, the weight of the two thin diabetics diminished, while that of the fat patient increased a little. In all three the excretion of sugar was markedly diminished, while the excretion of carbonic acid increased a little, though not to the normal amount. On an exclusive meat diet the obese diabetic gained weight, as did the less thin of the other two. In the two that weighed most the excretion of sugar was markedly decreased, and there was increased excretion of carbonic acid. In the thinner patient there was increased emaciation, diminution of sugar, and stationary excretion of carbonic acid. Under the same diet, and with the use of bicarbonate of soda there was increase of weight in all the patients, diminished excretion of sugar, and considerable increase of carbonic acid, which was above normal in one patient. The addition of milk to the preceding diet always increased the amount of sugar and diminished the amount of carbonic acid excreted.

Under mixed diet, with the addition of lactic acid, the weight decreased or remained stationary. In the two other patients the sugar and carbonic acid remained stationary or increased slightly. Under ordinary diet (meat, bread, wine, soup, etc.) and lactic acid, the obese patient lost weight, as did the thinner of the other patients. The third patient increased in weight. The amount of sugar remained stationary, or was increased, and the carbonic acid increased in one case and decreased in the others. Under ordinary diet,

with the addition of bicarbonate of soda, all the patients gained in weight. The amount of sugar excreted by the obese patient remained stationary, but was markedly increased in the other patients. The carbonic acid exhaled was decreased in the case of the thin patients, and increased to normal in the fat patient. Generally speaking, then, the excretion of carbonic acid is in inverse ratio to the amount of sugar excreted.

It appears, then, that while the exclusion of starchy food is useful (and in fact almost imperative) an exclusive meat diet causes loss of weight, at least in thin patients. In these, says Livierato, a mixed diet, with the addition of bicarbonate of soda, which favors the combustion of the sugar, is most suitable. Lactic acid causes increased exhalation of carbonic acid, but does not correspondingly diminish the excretion of sugar.

EDITORIAL NOTES.

A CYCLOPEDIA OF THE DISEASES OF CHILDREN, by American, British, and Canadian authors, edited by Dr. John M. Keating, is to be issued in four volumes by the J. B. Lippincott Company, of Philadelphia.

THE *Vestnik ssudebnoi mediciny i obschtshestvennoi gigieny*, hitherto published as a journal of forensic medicine and public hygiene, announces that it will hereafter be a journal of general medicine, and its title will be changed to *Vestnik obschtshestvennoi gigieny, ssudebnoi i prakticheskoi mediciny*.

THE FOURTH CONGRESS OF RUSSIAN PHYSICIANS will be held in Moscow in 1891. The number in attendance upon the last (third) Congress was 1,648, 120 of whom were women physicians.

DEATH FROM CHLOROFORM IN A DENTIST'S CHAIR.—According to press dispatches a young lady died in a dentist's chair in Norwalk, Ohio, on February 21, after having had chloroform administered for the extraction of a tooth. It is stated that she "partly recovered from the drug," when "she started to rise from the chair, but suddenly sank back and died." From the meagre information conveyed in the press dispatches one cannot know whether the chloroform was administered by the dentist himself, or whether the

administrator was a physician, or a person sufficiently skilled to administer chloroform; but one can scarcely conceive of a skilful anæsthetizer giving chloroform to any one in a dentist's chair under any circumstances. A person that would give chloroform to a patient in a chair, would probably not take the other necessary precautions when about to give chloroform, such as removing all sources of constriction of the body.

Is it not time that dentists, and physicians also, learn that chloroform is a very dangerous drug when given improperly? With the other means of anæsthesia that we have, is the use of chloroform for tooth-extraction justifiable? The fact that teeth have been extracted under chloroform, and without injury to the patient, does not justify its use for this purpose. The surgeon that would seat a patient fully clothed in a chair, and give chloroform to amputate a finger, or open an abscess, would be guilty of negligence little, if any, short of criminality. We are too much inclined to excuse such blunders, hoping that the blunders have been taught a salutary lesson, which, however, is of no benefit to the person that has come to an untimely death. There should be more care, in dealing with the ills to which the flesh is heir, that the patient survive the treatment.

THIOL is the name given by Dr. Emil Jacobsen to a synthetic product having the exact formula of ichthyol, and being otherwise identical with it. It is intended as a succedaneum for ichthyol, being less disagreeable than it. It has been given internally in doses of forty grains, without apparent effects on the organism.

THE INFECTIOUS NATURE OF FIBRINOUS PNEUMONIA has been investigated by J. LIPARI, his results being published in *Il Morgagni*, August, September, and October, 1888. He reproduced pneumonia in animals by intratracheal inoculation of pneumonic sputa or of cultures of a microbe having all the characteristics of Fränkel's pneumococcus. In all cases he found the same microbe in great abundance, in the hæmorrhagic and sero-fibrinous pleural exudations, and in the hepatized pulmonary parenchyma, less abundant in the blood and spleen, inconstant in the liver, kidneys, and pericardial and peritoneal fluids. In some cases of pericarditis, peritonitis, and abscess of the liver the pneumococci were very

abundant. Inoculations of sputa or of pure cultures in the veins, in the peritoneum, or under the skin, never caused pneumonia; pneumonia occurred only when the inoculations were made through the lungs. The disease was first local, and then became general.

The British Journal of Dermatology, the first three numbers of which have appeared, is edited by Mr. Malcolm Morris and Mr. H. G. Brooke. By an arrangement with Professor P. G. Unna, articles sent to his *Monatshefte für praktische Dermatologie* and to the *British Journal of Dermatology* may be translated and published in both journals.

MEDICAL STUDENTS IN GERMAN UNIVERSITIES.—Official data give the total number of students of medicine in the twenty German Universities, for the winter semester of 1888-89, as 4,976 native-born, and 3,659 foreign, making a total of 8,635. Berlin has 1,456, and Munich 1,188, 670 of the latter being foreigners, while Berlin has but 385 foreigners. Erlangen has 181 foreigners to 116 natives; Freiburg 222 to 87; Jena 148 to 65; Leipzig 424 to 416; Strassburg 205 to 101; and Würzburg 798 foreigners to 186 natives. The other universities have more native than foreign students.

A **POLYCLINIC FOR NERVOUS DISEASES** will be instituted at Breslau in the near future under the direction of Professor Wernicke.

MEDICAL PARIS OF TO-DAY is the subject of a series of very interesting letters, which MR. ERNEST HART has been writing to the *British Medical Journal* for several weeks past. Among the subjects written of are the Pasteur Institute, its structure and arrangement, facilities for study, and plans of the Institute; the growth of places of higher instruction in Paris; the laboratories of bacteriology; the facilities for study by foreign practitioners and students, and the liberality to foreign students and practitioners; the cost of education; the official organization of teaching, and the training of teachers; hospital teaching; education and examination. Almost all of two long letters are devoted to M. Charcot, and La Salpêtrière and its 5,000 inmates. The first letter was devoted to a comparison of medical Paris of twenty-five years ago with that of to-day. It is to be hoped that Mr. Hart will publish the

really valuable series in pamphlet or book form, since they are of great interest to medical men generally, and medical teachers, particularly, can learn from them much that will be of value to them in their college duties.

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

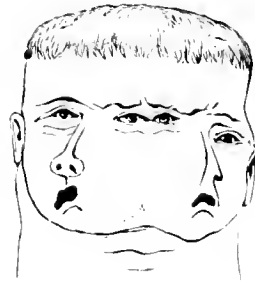
Stated Meeting, October 31, 1888.

SWAN M. BURNETT, M.D., IN THE CHAIR.

DR. A. F. A. KING presented:

1. DIPROSOPUS TRIOPHTHALMUS. 2. ANENCEPHALUS.

Dr. King stated that he was not prepared to give the history of either of the specimens. He thought, however, the specimen presented as *Diprosopus Triophthalmus* is *Diprosopus Tetraophthalmus* inasmuch, as there appear to be four eyes instead of three. In the drawing there are four eyes although the author gives it the name of "*Diprosopus Triophthalmus*."



DIPROSOPUS TRIOPHTHALMUS. (?)

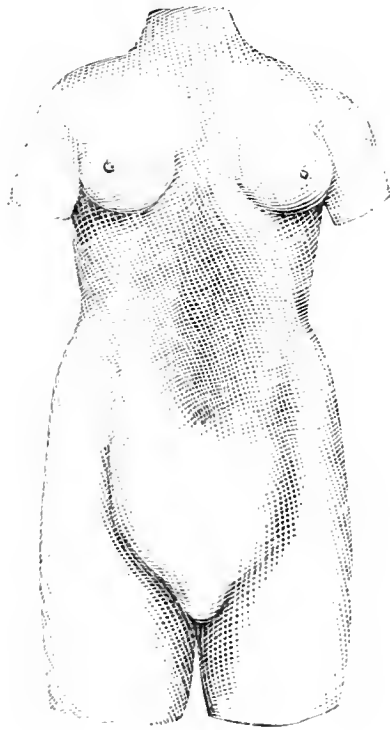
DR. LAMB: The four eyes in the specimen presented are due to anterior duplicity. There was not cleavage of the head. There was fusion of the head only, which takes place later than complete cleavage. The acephalous specimen is of great interest. The head is between the shoulders. There is absence of the brain and cord with fissure of the skull and cervical vertebrae. By some such interruptions to development are considered to be the result of hydrocephalus. Another theory is that the head fold of the amnion and the head of the embryo have grown together and prevented development. Neither of the specimens would have had viability lasting more a few hours.

DR. CHARLES E. HAGNER reported a case of HERNIA OF THE PARTURIENT UTERUS THROUGH THE LINEA ALBA.

(See page 302.)

DR. C. E. HAGNER: There are several points of interest in the case reported. Could he have prevented the rupture? As he had delivered two other women with umbilical herniæ and as this one had been delivered twice before without any trouble from the hernia he did not anticipate such a severe complication. When he discovered the uterus extra-abdominally he was afraid to attempt replacement as it was apparently just beneath the surface of the integument. Should such herniæ be operated on in child-bearing women? Or should such operations be postponed until after menstrual life? He remembered having read that some surgeon had operated on just such cases but he could not recall the facts.

DR. FRY: The experience of Dr. Hagner was both interesting and rare. Herniæ of the pregnant uterus are serious complications, and may call for the Cæsarean operation. In this case the umbilical hernia started the rent. We should expect to find relaxed abdominal walls in multiparæ; but in this case it was only the third pregnancy. It was formally very rare, but it may become more frequent as laparotomy becomes more common as we have seen that it has a tendency to weaken the abdominal walls.



He had been called to see a multipara, in the sixth month of her fifth or sixth pregnancy, for a tumor in the abdominal wall. The tumor had existed in previous labors but she experienced no difficulty from it. Examining it, he found that

the pregnant uterus protruded through an apparent separation of the linea alba. The diagnosis was not difficult. The tumor was pear-shaped, with its apex pointing downward. There was an œdematous swelling of the abdominal wall so that it hung down over the vulva like a bag. The drawing illustrates the appearance of the tumor. He did not think an operation would be justifiable unless there was suffering demanding it.

DR. KING: If a woman with an umbilical hernia should become pregnant he thought adhesive plaster would act better than a bandage, because it would slip as the abdomen enlarged. Hernia of the unimpregnated uterus was unusual, and of the impregnated is very rare. There are different varieties. Sometimes the uterus is outside of the abdomen before the impregnation and then it would remain outside. Two cases have gone to full term, the Cæsarean section has been performed and both women died.

DR. S. S. ADAMS had been able to find only one case reported similar to that of Dr. Hagner; but he had found a number of cases of hernia of the pregnant uterus a subject to which he had lately given considerable attention. He had found seven cases of inguinal, one of crural, five of umbilical and six of ventral hernia of the pregnant uterus. Cæsarean section was performed five times. Porro's operation induced labor once and natural labor once in inguinal hernia of the pregnant uterus. Four mothers were saved and four died and six children were saved and two were still-born. In the umbilical and ventral variety support was the principal treatment. Of the eleven cases the result in two is not stated. Nine mothers were saved and nine children; craniotomy was performed in one case, but this was offset by one twin pregnancy in which both children were saved.

Stated Meeting, November 21, 1888.

THE PRESIDENT, THOMAS C. SMITH, M.D., IN THE CHAIR.

DR. ERNEST F. KING presented a specimen and read the history of a case of

ULCER OF THE STOMACH.

J. L. M., white, native of Virginia. Visited in Virginia during past summer. Friends whom she visited report that she had good appetite and gained in weight, but complained of distress and at some times was in pain.

On Thursday, November 1, she went to spend the day and night with a friend. In the evening she walked one square to a church service, and during the service was seized with a deathly faintness and was with difficulty taken to the home of her friend and put to bed. On Friday she vomited blood, and again on Saturday. Her friends estimated the quantity as half a gallon. At mid-

night Saturday she vomited again profusely. I saw her first at 4 A.M. Sunday morning; blanched; suffering from nausea; pulse barely perceptible. Soon after my arrival she vomited some 4 ozs. of bloody mucus with some clots. I believed the hæmorrhage to have been checked. Gave enema of milk and whisky. Nausea seemed to be controlled by swallowing small pieces of ice. In the morning ordered tincture of chloride of iron, 10 drops in water every four hours, and if vomiting of blood recurred, a teaspoonful to be given immediately. There was apparent improvement during Sunday and Monday; no food being given by the mouth. Tuesday morning she seemed so much stronger I yielded to her entreaties and allowed her to have every hour a dessertspoonful of oyster broth which was nearly all milk. In addition ordered 2 drops of Fowler's solution every four hours. Tuesday evening more blood was vomited. She was given a teaspoonful of the tincture of iron, which seemed to increase nausea and was returned after a few minutes. She remarked that iron always did make her sick.

During Wednesday and Thursday she was fed entirely by the rectum, milk or milk and egg, with whisky and deodorized opium at times. Iron was continued in 10 drop doses. During Friday and Saturday she had beef essence in ice-water by the stomach. There was no further vomiting until about midnight Saturday. I saw her about 1 A.M. She vomited before and immediately after my arrival, nearly one-third filling the ordinary vessel. The teaspoonful of iron that was given her was almost immediately returned. Dr. Busey saw her with me on Sunday and Monday. Treatment was continued except that beef-tea was given by rectum, and teaspoonful of milk and lime-water half and half every half-hour by stomach. Monday evening she grew weaker, and when I saw her at 1 A.M. was evidently nearing her end. Her mind wandered at times, and at 5 A.M. she grew violently delirious, screaming out and taxing her father's strength to keep her in bed. This attack soon passed off and she sank back, rapidly growing weaker and dying from exhaustion at 10 A.M. Tuesday, November 13, twelve days after the first hæmorrhage and fifty-five hours after the last.

DR. D. S. LAMB made the post-mortem examination in this case and reported: Surface everywhere blanched. Body generally bloodless. Right lung normal; some pleuritic adhesions of left. Heart normal. Liver pale. Spleen congested. Pancreas normal. Stomach coated with tenacious mucus; mucous membrane of the posterior wall, one-third the distance between the cardiac and pyloric orifices and within 1 inch of lesser curvature, showed two small ulcers, each less than $\frac{1}{2}$ inch in diameter; one penetrates to muscular coat and is partly cicatrized; the other of less depth and entirely cicatrized. There was a small diverticulum of ileum. Remaining small and large

intestine normal. Kidneys pale, bloodless. Bladder full of urine.

DR. BUSEY said that this case was of peculiar interest to him for several reasons. The patient had been sick ten days before Dr. King asked him to see her, after she had had several copious hæmorrhages. She was well nourished, but pale and exsanguinated. There was no history of ill-health except slight discomfort after eating, nor of menstrual disturbance or neurotic condition. No hæmorrhage occurred after he saw her, and he was surprised on Tuesday, when he was asked to witness the autopsy. He had not supposed death would occur unless the hæmorrhage recurred. There was no question as to the diagnosis and treatment. The excessive irritability of the stomach was an unusual symptom in such cases. She could not retain anything except water. He was surprised that fatal hæmorrhage should have occurred from an ulcer not more than $\frac{1}{4}$ inch in diameter. Most ulcers are found on the posterior wall near the pyloric orifice; in this case it was nearer the cardiac opening. All ulcers do not bleed. It was the site and not the size of the ulcer which caused the fatal hæmorrhage in this case. The hæmorrhages were not more copious than frequently occurs, but were more frequent. As death occurred fifty-five hours after the last hæmorrhage, it must have been from exhaustion. She was nourished by the rectum. Death is due to either of the following conditions in their order of frequency: Perforation, hæmorrhage, exhaustion and complications. Ulcers do not usually occur in women as well nourished and as robust as this one seemed to be. Judging from the macroscopic appearances and the history the ulcers were of recent formation.

DR. A. C. ADAMS: Was the ulcer near a large vessel? The arterial supply of the stomach is very extensive. He had had a case of hæmatemesis in which the patient vomited two ordinary cuspidors of blood, with only slight recurrences, and recovered—much to his surprise. In a case of typhoid fever in a woman the hæmorrhage lasted five days and the patient recovered. If the ulcer is away from a large vessel is it not very probable that the blood comes from some other part?

DR. EDES: The case reported is very interesting. He had lost several cases of ulcer of the stomach, one of which resembled this. In one a man was taken with profuse hæmorrhage on the street and died in a day or two. At the autopsy it took some time to find the ulceration. It was found to have perforated a large vessel leading to it. In another case a woman had an enormous hæmorrhage and recovered. There are so few symptoms in such cases; they may have a history of gastric disturbances for a long time. Many get well without hæmorrhage, which, when it occurs, is accidental and caused by the ulcer cutting into the blood-vessel.

DR. W. W. JOHNSTON: Ulcer of the stomach is no doubt more common than we suppose. It is very probable that some cases which appear to be simple gastralgia are really gastric ulcers. The frequency of unrecognized gastric ulcers is proved by autopsies. A large number of healed gastric and intestinal ulcers were found at Prague without any recorded symptoms to account for their presence during life. Hæmorrhage is not a necessary symptom and occurs only in those cases where the wall of a blood-vessel is necrosed. As to the etiology, it has been shown by experiments upon animals that hot ingesta, and injuries from heavy weights and blows will produce ulcers of the stomach. From such causes hæmorrhage may take place into the submucous tissue with arterial thrombosis. If the thrombus occludes the nutritive vessel there will be ulceration. As to symptomatology, he had seen a number of cases of excessive hæmorrhage from the stomach without pain. Gastric ulcers can develop and heal without producing any characteristic symptoms, and autopsies show, and if we treated obstinate cases of gastralgia and cases of hæmatemesis on the theory that small gastric ulcers, such as are seen in this specimen, exist we might have much better results.

DR. LAMB: The stomach was thickly coated with a tenacious mucus. If the stomach were examined more carefully ulcers would be more frequently found. In cirrhosis of the liver fatal hæmatemesis frequently occurs without any disease of the stomach. In one case of fatal hæmatemesis he found a shallow ulcer near the œsophagus, which he might have lost sight of except for the great care in removing the tenacious mucus. He had no opinion to offer as to the cause of the ulcer in this case; it was situated near the gastric artery and probably one of its large branches ruptured.

DR. CALDWELL gave the history of a case. A girl, aged 16, had a number of serious hæmorrhages; on several occasions she vomited at least an ounce of blood; and once he saw two ounces. She had pain on swallowing, which she located near the stomach. Astringents and liquid diet were ordered. After this she frequently complained of food stopping at a sore spot and distressing her. Once at dinner, while masticating a piece of meat she laughed and the bolus was swallowed and lodged at this sore spot and gave her the most excruciating pain. He found her making efforts to vomit. He passed the œsophageal tube nearly to the cardiac end of the œsophagus where it met with a resistance; by firm pressure he succeeded in pushing the tube past the obstruction. There was a partial constriction which he relieved and she has not had any trouble since. This was probably a case of ulcer of the œsophagus.

DR. SELHAUSEN asked Dr. King if his patient

had had rheumatism. If so, vegetations might have formed on the valves, which subsequently were washed off, swept along in the blood current and form a thrombus in the nutritive artery of the stomach and thereby caused ulcer.

DR. KING had learned since the patient's death that some years ago she had had rheumatism.

DR. CHARLES E. HAGNER: It is very important in such cases to make a correct diagnosis. Excessive hæmorrhages frequently occur without ulceration of the stomach, as where men had been on prolonged debauches. He had seen cases of this character. One at Willard's Hotel vomited over a gallon and recovered; another died. In both there was cirrhosis of the liver. Excessive mucus may be produced by morphia. In a case he suspected ulcer and tried to diagnosticate it by the galvanic current, but failed. If the ulcer can be located by this method it is a nice way to diagnosticate it. He did not think a diagnosis could be made with certainty between ulcer and cancer of the stomach by the microscope. Some time ago a microscopist diagnosticated cancer of the stomach, having found cancer cells in the vomited matter, but the woman got well and has gained in weight ever since and is now a robust woman. We should exercise the greatest care in giving opium to relieve the pain in cases of ulcer of the stomach lest we create the opium habit. After awhile these patients become so accustomed to taking morphia that they suffer for the want of it. These pains can usually be relieved by Parish's camphor mixture. The hypodermatic administration of morphia nearly always produces a pain in the pit of the stomach, like gastralgia.

DR. LAMB: The heart was normal and gave no evidence of rheumatic endocarditis.

DR. REYBURN: Such cases should be fed by the rectum for a long time, and it would be surprising how long life could be maintained by this method. He cautioned the members against administering morphia too freely and stated that the physician would soon become the slave of the morphia taker.

DR. HOEHLING had had some personal experience with hypodermatic injections of morphia and they always produced in him the pain referred to by Dr. Hagner.

DR. A. F. A. KING had never seen the patient before this illness, and knew little about her previous history. He has since learned from her family that she had last summer attacks of pain after eating. She complained of a slight pain in the right shoulder, which was relieved by paregoric and deodorized tincture of opium. The iron nauseated her very much. He was surprised at her strength; a few hours before death it took great force to keep her in the bed.

DR. CHARLES E. HAGNER presented the specimen and gave the history of a case of

CALCULUS SUBLINGUALIS.

A child, æt. 7, had a swelling about the size of a pigeon's egg beneath the lower jaw, which was very painful. Domestic remedies were tried and he was called in on account of fever. There was tenderness in the submaxillary region over the tumor. He gave an anodyne lotion and a febrile mixture. The child was not any better the next day, so he examined Wharton's duct and felt a hard substance. He removed two calculi, which were followed by a little pus. There was no further trouble. He reported this case because he thought it was unusual to find a calculus in such a young child in this location. About two years ago he had reported a case of a young lady who noticed a swelling under the ramus of the jaw every time she ate acids. He gave her vinegar and a painful swelling immediately appeared, which he attributed to congestion. Dr. Thompson saw this case with him. Dr. Hagner removed a large calculus from this patient.

Gynæcological Society of Chicago.

Regular Meeting, Friday, Dec. 21, 1888.

THE PRESIDENT, CHARLES T. PARKES, M.D.,
IN THE CHAIR.

DR. W. W. JAGGARD showed

THE UTERUS, ADNEXA, KIDNEYS AND
URETERS

recently removed from the body of a *Para* that had died of eclampsia twelve hours after delivery. The specimens had been placed at his disposal through the courtesy of Dr. Fred. Jenner Hodges, of the resident staff of Cook County Hospital. The patient entered the hospital a few days before confinement; albuminuria was noted. The course of labor was normal; the first convulsion occurred after delivery.

Dr. Jaggard wished to direct the attention of the Fellows to the characters of the cervix uteri that he thought were in full harmony with the views of Bandl. He begged to make a complete report at the February meeting, when it was proposed to discuss the subject of puerperal eclampsia.

DR. HENRY T. BYFORD presented

A VAGINAL OVARIOTOMY TROCAR.

This instrument is designed to supply a want I have felt in the removal of ovarian cysts through the vagina. It is practically a curved canula with a little shield and stopper on the end which directs the fluid into a vessel. When the recto-uterine cul-de-sac of the peritoneum is opened the tumor is held by a hook while the slightly sharpened end is thrust into it. If the fluid be thick the stopper may be taken out.

CYSTO-FIBROMA OF THE OVARY.

The microscopic examination made by Dr. Frank Cary proves this to be a fibro-cystic tumor of the ovary. It was the size of an adult head, and very irregular in shape. The cysts, which made up about three-quarters of its volume, are clustered about an irregular white glistening fibrous mass at the pedicle. The cyst walls are thick and fibrous near the center, but become membranous at the circumference. That the pedicle became twisted some months before the operation seemed probable from the symptoms, and is testified to by this large blood-clot in the largest cyst, by the dark color of the cystic wall and coagulated fluid, and by the extensive inflammatory adhesion or fusion of the omentum with this portion of the tumor. The uterus has also undergone fibroid degeneration, and is the size and shape of a pineapple. I left the uterus and removed the other ovary, which was somewhat large and vascular. I operated October 22d, at the Woman's Hospital, and discharged the patient apparently strong and well four weeks later. She was 40 years old, unmarried, had had symptoms of the tumor for fifteen years, such as incessant backache and pain in the abdomen. The menstruation was regular, and, contrary to what might have been expected, the flow was scanty.

OVARIAN PREGNANCY.

I have also brought some specimens from the practice of Dr. William H. Byford. It appears to be a case of ovarian pregnancy in which the sac was intact and developed down between the layers of the broad ligament. The tube was entirely separate from the sac, and on the opposite side of the ovary. The fetus was macerated, and, although it formed a beautiful specimen at the time, has partly fallen to pieces. There was a small cyst in the other ovary, which you will find on the same platter.

History: Mrs. B., American, æt. 34, wife, married sixteen years. One miscarriage fifteen years ago. One child 14. Entered hospital May 19, 1888. Seven years ago, after an illness of several weeks, during which time she was confined in bed, and suffered much pain, she passed a fleshy substance, pronounced by attending physicians to be a false conception. Since that time, about every two years she has had periods of flowing for days or weeks at a time. Health between these periods as good as usual. About one year ago she missed two menstrual periods; was then taken sick, had severe hæmorrhage from uterus, and was confined to bed for two or three weeks. Since then until she entered hospital, has menstruated every two or three weeks, and flowed profusely at such periods. Diagnosis, granular endometritis, lacerated cervix, small fibroid tumor in posterior wall of uterus, enlarged ovaries. Was curetted a few days after entering

hospital. Trachelorrhaphy was performed about four weeks later. Operation a success. Seeming much improved, in July she was discharged. At St. Paul, on her way home, began to flow again, and returned to hospital. Fld. ext. ergot was given in twenty-drop doses four times daily. August 1, she was again curetted, but did not receive much benefit from this operation. The ovaries were removed November 12. Smooth recovery.

FATTY TUMOR OF THE SUPRARENAL CAPSULE.

The specimen I now wish to describe is a supposed fatty tumor of the supra-renal capsule, but it was unfortunately allowed to spoil and cannot be exhibited. Mrs. Silva Walker, Patalia, W. T.; æt. 38; American. Married twenty years; has had five children, eldest 19, youngest 10. No miscarriages. One year and a half ago first noticed increase in size of abdomen in right side and through pelvis. Slight backache. Size increased very rapidly the last six months. Menstruation regular and normal. She was operated on November 25, 1888, and is getting well. This, I believe, is the only fatty tumor of the supra-renal capsule which I can find on record that has been removed before death. A few have been discovered at autopsies. It weighed twenty pounds. As it filled the abdomen so completely, even pressing down the uterus, its place of origin was not determined before the operation. A feature of importance in the case was the manner in which the growth was removed. It was enucleated from the capsule, and the capsule sewed with catgut and trimmed so as to make a canal from the bed of the tumor up to the external abdominal walls. The edges of this canal or sac were sewed into the abdominal wound so as to shut off the abdominal cavity; the bed of the tumor was thus treated extra-peritoneally. The kidney was removed. Whether it might have been safely left or not is a debatable question; the chances were it would have undergone inflammatory changes. Its vessels were ligatured, and the ligatures left in the capsule. A large exposed vein, at the bottom of the cavity, was clamped with hæmostatic forceps, and a large bleeding surface, on the under aspect of the diaphragm about the normal attachment of the supra-renal capsule, was gathered together in the blades of two long hæmostatic forceps. The forceps were taken off at the end of thirty hours. The patient has done very well since. The tissues, which were caught in the bite of the forceps, have sloughed out, and the cavity is healing. The other kidney secretes twenty to forty ounces of normal urine a day.

DR. PARKES: How did you come to settle definitely that this tumor grew from the supra-renal capsule—why not from the post-peritoneal fat for a basis?

DR. BYFORD: The supra-renal capsule was not

found, but this tumor was attached to the under surface of the diaphragm where the supra-renal usually is. The tumor now developed above and over the anterior surface of the kidney, and did not lift the kidney forward, but rather held it back in place. There was no indication of unusual fatty development in any of the tissues about. The firmness of the capsule and its relations after enucleation favored my view. A post-peritoneal fatty tumor about the kidney would have more lateral attachment, and, I think, develop more down the side into the iliac fossa; whereas this one, which was freely movable, pressed down in the centre of the pelvis so as to give the impression at first that it was attached to the uterus. All these facts have led me to consider the supra-renal capsule as the starting point.

CYSTO-FIBROMYOMA OF THE UTERUS.

The last specimen I have to show is a fibro-cystic tumor of the uterus weighing 30 lbs. It was surrounded by 45 pints of ascitic fluid, so that the patient was relieved of 75 lbs. of weight by the operation. What was left of her weighed about 90 lbs. On the right side is a plain fibroid growth; on the left side it has undergone myxomatous degeneration. A peculiarity is that the uterine cavity is completely obliterated $\frac{1}{2}$ inch below the normal-sized fundus by the tumor, and begins again lower down. The patient was about 44 years of age and menstruated scantily. The tumor, which is known to have been growing over fifteen years, started below the fundus in the posterior uterine wall. The broad ligaments were ligated separately, and the uterine stump treated extraperitoneally. This is the sixth day since the operation. There has been but little reaction, the drainage tube is about dry, the patient is hungry, and has commenced to direct the household affairs. Flatus passed freely from the beginning. Formerly, when I was an adherent of the intra-peritoneal method of treating the stump, I stood in great awe of abdominal hysterectomy for fibroids, but since adopting the extraperitoneal method I find that the mortality is but little greater than after ovariectomy.

I would like to say that I have been found fault with for failing to bring microscopic slides of my specimens, or reports of pathologists upon three cases of alveolar sarcoma of the uterus, reported at the September meeting of this Society, and that my diagnosis was called in question. In my anxiety to take up as little of your valuable time as possible, I suppose that I must have omitted to state that, in the two cases shown, specimens were obtained by curettement a week before I removed the uteri, and were examined by pathologists—that from Mrs. M. by Dr. L. L. McArthur, that from Mrs. Sh. by Dr. M. J. Mergler. In the case referred to, in which the uterus went to

pieces during removal, Dr. Doering, who was the family physician, had the specimen examined by a pathologist. The fourth case I casually mentioned was diagnosed by Dr. McArthur from specimens I obtained by curettement. In the case of sarcoma of the ovary, Dr. Bayard Holmes was my authority.

THE PRESIDENT: I have had under my control lately a large tumor of the abdomen. I decided that it was behind the intestine, because there was one channel passing over the surface of the tumor, in which one could get a gurgling sound and something that resembled the displacement of gas. That indicated that the intestine was in front, and so it proved. It was a pancreatic cyst.

DR. W. W. JAGGARD: The Society is to be congratulated upon the presentation of so much valuable pathological material at this particular meeting. I have been specially interested in the case of alleged ovarian pregnancy. Without for one moment questioning the accuracy of Dr. William H. Byford's diagnosis, I beg to remind the Fellows that cases of ovarian pregnancy are very rare. Werth has demonstrated the tubal origin of many of the cases recorded as ovarian. As an essential criterion of ovarian pregnancy, the possibility of the participation of the corresponding tube in the sac must be excluded. In the specimen, as it has been presented to-night, it is impossible to exclude the participation of the tube in the sac.

THE PRESIDENT: I remember seeing a few years ago, in the office of Dr. Murphy, of St. Paul, a specimen of a uterus and both ovaries removed after death. In one ovary there was a fetus. The Fallopian tube and all were present.

DR. W. W. JAGGARD read a note on

TWO OBSERVATIONS OF TYPHOID FEVER DURING PREGNANCY.

I report the two following examples of typhoid fever during pregnancy, both on account of the intrinsic interest of the case, as well as to bring out the experience of others with this complication. Typhoid fever is of very frequent occurrence in Chicago, and the Fellows that have resided in the city for a considerable period, can doubtless supply important facts that bear upon the reciprocal relations of this disease and pregnancy.

Observation No. 1.—This case was observed and described by my friend, Dr. William M. Findley, of Altoona, Pa. Mrs. M. H. Y., æt. 24 years, of Irish extraction, whose husband had been ill some six weeks with typhoid fever, was, after the initial prodromata, taken down with well-marked typhoid fever, May 7, 1873. Temperature and pulse ranging high in evening, with epistaxis, and diarrhoea early. The case would not have attracted unusual attention except for the fact

that she was pregnant, and her labor was anticipated on May 10, 1873. She, however, was not taken in labor until May 15. On the evening of May 14, I was called about 9 P.M., after my regular visits for the day, and found her condition as follows: Temperature 103° , pulse 140, respirations 36, with marked bronchial irritation and secretion—having had six characteristic stools during the day in spite of remedies—and the contractions of the uterus quite strong and regular, os dilated to a half-dollar piece size and dilating. The heart being very feeble, and jactitation marked, with exhaustion coming on rapidly, I gave her, *ad libitum*, best port wine and brandy, so that in the four or five hours of labor she took a quart of brandy, and about as much more port wine, with no other effect than to keep her in the same condition as I had left her before labor came on. In due time the labor was terminated, contraction was perfect once the product of conception was expelled completely, and no untoward results followed. Although during the labor her bowels were moved copiously some six or eight times, after labor the bowel trouble seemed to subside, and she passed on to convalescence in some three weeks without marked irregularities, as in an ordinary case of uncomplicated typhoid fever. The secretion of milk was entirely suppressed, the mammary glands never showing any signs of activity during her illness.

The condition of the child, however, was remarkable. The entire cuticle or epidermis was shrivelled and creased as though it had been macerated in hot water, and in a day or two it was covered with bullous spots from head to foot, vesicular first, then pustular. As the boy was healthy in other respects, in the course of a week or ten days the eruption under emollients was well, and the cuticle becoming detached, was replaced by a healthy skin tissue and the baby was well, except that as a young man he carries the cicatrices of some of the bullæ.

Observation No. 2.—This case came under my own observation. From the history of the case, written by Dr. B. L. Riese, I make the following extracts:

Mrs. A. McG., 23 years old, married June 17, 1888. Last menstruation June 10, 1888. Morning sickness six weeks after marriage. Husband and wife taken sick with typhoid fever about the 28th of August; both admitted to Mercy Hospital, September 4th. Husband died a few days later of a malignant type of the disease. In the case of the wife, the disease pursued a typical course, lasting about three weeks; maximum temperature, 103.4° F.; maximum pulse 130. October 1st, several days after the subsidence of the fever, severe pains referred to the hypogastric region, hæmorrhage from the vagina. After irrigation of the vagina, examination revealed the vaginal portion softened and the ovum presenting

through the cervical canal. Plan of treatment, expectant, in the absence of serious hæmorrhage or symptoms of sepsis. October 3d, escape of liquor amnii; on examination, foetus protruding through the os externum; removal of the foetus, placenta, and membranes by bimanual manipulations under aseptic conditions.

The patient made an uninterrupted recovery. The ovum corresponded to the fourteenth week. (Presented for inspection.) The apparent cause of abortion in this case was hæmorrhage into the decidua serotina and placenta fetalis. The extravasation occurred before the removal of the product of conception. This fact is evident from the character of the clot, as large as an English walnut, and firmly imbedded within the placenta tissue. The presence of hæmorrhagic endometritis may be inferred from the character of the decidua vera and chorion leve.

With reference to the mutually unfavorable relations of typhoid fever and pregnancy, experience teaches that pregnancy confers upon the individual no immunity from typhoid fever. Upon the other hand, the course of this disease is commonly modified unfavorably, and, the fever in turn exercises a distinctly prejudicial influence upon the course of gestation. The tendency to the interruption of pregnancy is more marked than in any of the acute infectious diseases, with the possible exceptions of small-pox and cholera. In about two-thirds of the cases collected by Kaminski, Zülzer, Scanzoni, and others, pregnancy was prematurely interrupted.

The chief causes of abortion or premature labor are to be found:

1. In the elevation of maternal temperature causing death of the fetus by insolation, or its premature expulsion by thermic irritation of the uterine musculature.

2. In the almost constant hæmorrhagic endometritis, illustrated in the specimen presented.

3. In the depression of the maternal blood-pressure with asphyxiation of the child.

4. Until within a recent period the transmission of the infection through the placenta from the mother to the child has been regarded as possible, but not demonstrable. Lately, however, Widal and Chautemesse have detected the bacillus, alleged to be characteristic of typhoid fever in the blood of a fetus, corresponding to the fourth month.

The unfavorable influence of pregnancy upon typhoid fever lies specially in the tendency to abortion or premature labor at a time when the loss of blood and the muscular exertion necessary to effect the expulsion of the product of conception may precipitate death from exhaustion. There is also increased risk of perforation.

DR. E. J. DOERING: I would like to have Dr. Jaggard tell us whether there are any statistics by American authors. I have had two cases, one

last September, in which the fever lasted from three to four weeks, and in both of which pregnancy was not interrupted. One lady was in the sixth month of pregnancy, the other in the seventh month. The temperature in either did not exceed $104\frac{1}{2}^{\circ}$ F. It is my experience that these cases are liable to go through without interruption. Before the discussion is closed, it seems to me it would be well to have the experience of members present. They must have seen such cases, and I do not think we should let the subject go by without all the members stating their experience. In my last case I expected daily that the patient would miscarry, but to my surprise she went right along. That was quite a severe case. In the other case the fever did not go quite so high, but the last case was typical, and lasted fully four weeks. I not only thought she would miscarry, but had grave doubts as to her recovery. But to my surprise and pleasure she passed through safely, and returned to her home in Mobile some months later.

THE PRESIDENT: If my recollection serves me, I am satisfied I have seen several cases of pregnancy complicated with typhoid fever, and I am quite sure that every one of them miscarried where the pregnancy was early; those in which the typhoid fever came on toward the later stages of pregnancy, the patient not only miscarried, but lost her life as well. Of course I cannot now recall the exact number, nor the cases, but that is the recollection I have. It seems to me I have often heard doctors say that it is rather an impression among medical men that if they have a case of typhoid fever in pregnancy it is likely to be followed by a miscarriage.

DR. JOHN BARTLETT: I recollect but one case. That was many years ago, in which a woman pregnant about four months, and in the third week of typhoid fever, doing quite well, was taken in abortion. She went through the process of labor satisfactorily, but died next day.

DR. BAYARD HOLMES: The transmission of the bacillus of typhoid fever through the placenta is a matter worthy of consideration. We know that in certain cases of anthrax the fetus is not infected, although the mother's blood is full of the bacilli. After the birth of the living, healthy fetus at term, a sufficient period follows for the incubation of the disease, and then appears anthrax; first in the umbilicus, then general symptoms of anthrax septicæmia. In other cases, however, the fetus is infected with the anthrax in utero. In a paper that I presented to this Society some months ago, I held that the pyogenic infection of the fetus through the placenta was a comparatively rare occurrence. Since that time I have paid considerable attention to that subject, and I conclude that my statement should be limited. All cases in which infection of the fetus in utero has or has not taken place can be recon-

ciled. In cases of sapremia with the presence of multiple known bacteria in the blood of the mother, those bacteria are all included in phagocytes. These phagocytes are sufficiently powerful to prevent the multiplication of the microbes, although they are not able to destroy them. This accounts for those typical cases of Bollinger, in which the foetus was not infected, although the blood in different parts of the body of the mother sheep contained the anthrax bacillus. Whenever, on the other hand, the sapremia has advanced to the condition of septicæmia, and the phagocytes have been overcome, and multiplication of the bacteria takes place at their expense, then embolism occurs in the peripheral arteries, that is to say, in the uterine wall, and the multiplication of the microbe follows at that point in close proximity to the foetal circulation. In this way they force themselves onward into the capillaries of the placenta, and the foetus is infected. In relapsing fever, and all cases of septicæmia, the infection of the foetus is the rule. Typhoid is a form of septicæmia, at least in the latter part of the first week. The symptoms of septicæmia are then present, viz., capillary embolism in the skin forming hæmorrhagic spots, the characteristic rose spots of typhoid; ptomaine poisoning, which either raises or lowers the temperature; internal capillary embolism resulting in splenitis, pneumonitis, hepatitis, nephritis, and in cases of a pregnant patient, hæmorrhage in the distended capillaries of the decidua in close proximity to the placenta. At first it is simply a miliary hæmorrhage, but as the destruction of the capillary wall increases by coagulation necrosis, a considerable quantity of blood escapes between the placenta and the uterine wall, and contractions of the uterus are initiated which ultimately expel the contents of the womb. The case which Dr. Jaggard reports from Pennsylvania seems to me to be one of acute pemphigus (Demme), and due to a secondary mixed infection of the mother, and not directly to the typhoid disease. Pemphigus is a relatively frequent form of secondary infection in children, but in the adult its manifestations are so trivial that a diagnosis is difficult. On this account the mother who was primarily infected seemed to escape, while the non-resisting child suffered the terrible disfigurement of the disease.

DR. JAGGARD, in closing the discussion, said he was unable to find in the literature of the subject any statistics from American sources that related to the items touched on in his communication. The role that maternal temperature plays in the causation of death of the foetus depends chiefly upon the rapidity with which the rise occurs, and the duration of the pyrexia. As pointed out by Doléris, Doré, Max Runge, and others, if the elevation of maternal temperature occurs slowly, and if it be of brief duration, the foetus commonly escapes injury.

Philadelphia County Medical Society.

Stated Meeting, January 23, 1889.

THE PRESIDENT, W. W. KEEN, M.D., IN
THE CHAIR.

DR. MORDECAI PRICE read a paper on

AMPUTATIONS OF THIGH AND LEG.

The subject I wish to bring before the Society to-night is one of deep interest—to me at least, and to all others who are alike unfortunate in having lost a limb. In performing amputation on the leg, the chief object of the surgeon of the day seems to be to remove the limb and save life the future comfort and usefulness of the patient being minor considerations. The comfort and usefulness of patients who are subjected to amputation of the leg have received my personal attention through the entire period of my professional life. This has been my latest thought at night; my first consideration in the morning; and I have been painfully reminded many times during the day of the importance of changes in the present surgical practice. I see no reason why in this department we should narrow our surgery to a strict following of the *dictum* of a school of surgeons a century old; why we should not, in step with other departments of surgery and medicine, adopt those new truths which our advanced art and science and wider experience approve.

I ask your critical consideration of the few changes I propose to suggest. As a student I often marvelled at the numerous amputations done near the ankle and through the knee, for the reason then given, to save all the limb possible, apparently without due consideration of the discomfort and suffering to follow and the usefulness of the limb. I have waited for years hoping that some of our eminent surgeons, members of this Society, would bring the subject before us, when I expected to be able to say something upon the subject. Like many other departments of medicine and surgery, however, this seems to have been looked upon as one of the subjects forever settled. For as far back as the works of surgery of the eighteenth century I find the same old plates, the same old positions for removal of the limb—where it is a matter of selection with the surgeon—as I find in use to-day. Sometimes the accident comes to the patient's rescue and removes sufficient of the limb to compel the surgeon to give the patient a good stump. In an amputation to-day in the foremost hospital of the world—the Pennsylvania—if the location of the injury left a choice as to where the limb should be removed, it would be done through the ankle or at the lower third of the leg. I suppose you ask, "Why not?" I would answer that question by asking the question, Why do we amputate at all?

The answer would be, First, to save life; and second, to make a useful limb. Now, we can save life as easily by one method as by the other. Why not then operate solely for the best interests of the patient? In an amputation of the leg all that is left below the middle of the middle third of the leg is useless and in the way, and gives that much more room for ulceration and friction sores. Let me tell you, gentlemen, these are weighty considerations in an amputation, for they compel the wearer of an artificial limb either to endure great suffering or to leave the artificial limb off, as I can abundantly testify from personal experience. Nearly three-quarters of a century ago, Gibson used the following language: "As much as possible of the thigh should in all cases be saved. But the rule does not always hold good in amputations of the leg. If, for example, the leg be amputated just above the ankle, the bone, from the deficiency of surrounding muscle, cannot be well covered, and is therefore not calculated to bear the pressure of an artificial leg. On this account the patient is obliged to have an instrument of the kind adapted to the knee, and the leg, therefore, is carried out behind at right angles with the thigh and by its weight greatly incommodes the patient, so much so, indeed, that I have known two or three to submit to a second operation, for no other reason than to get rid of the incumbrance." This Dr. Gibson gives as his professional experience. I personally know of a number of re-amputations for no other reason than the suffering, discomfort, or absolute impossibility of wearing an artificial limb upon a long stump. After the application of an artificial limb there is a constant diminution in the size of the stump. Its nutrition being continually interfered with, and the parts being of low vitality, consequently, when we have ulceration or friction sores or injuries of any kind, it is with great difficulty that they are induced to heal.

There is another element to be taken into consideration. As soon as the artificial limb is left off, and the patient assumes an upright position, the limb is greatly enlarged by a species of œdema which takes place immediately, leaving the parts in no condition to heal. The limb has the feeling of being cold and almost lifeless, and if exposed to cold it would be the first to freeze. It is almost impossible to keep the amputated limb warm.

When the artificial one is left off, amputations through the knee-joint give in many cases a very bad surface to bear the weight of the body, and a leg is rarely worn with comfort. Such an amputation absolutely prevents the application of a full-lengthed limb, as the knee-joint would have to be lowered some three inches for want of room, making at best a useless appliance. Amputate therefore—if it is a matter of selection—through the lower third of the thigh. An amputation below the middle of the leg is objection-

able on account of the length of the stump, which presents occasion for ulceration and is difficult to dress properly so that the limb may be worn with comfort. Every inch of stump over five or six inches below the knee involves that many hundreds of hours of suffering and distress to the patient. The additional chance of life does not add one feather's weight in favor of the long amputation. Amputation at the lower third does not give sufficient room for a strong ankle-joint, and, therefore, adds greatly to the wear and tear of the limb, thus adding largely to the expense. Amputations through the ankle may give the patient something to walk on, but this is oftentimes accompanied with great pain. It often gives him a poor excuse for a limb, and completely prevents any mechanical appliance from aiding him in the least, and forever prevents him from hiding his terrible deformity. If ever there was an appliance to which the term "slipshod" could be appropriately applied, it is to those intended to imitate nature in these cases. The usefulness of an artificial limb is in proportion to the simplicity and completeness of its mechanical construction. The nearer it resembles the human limb in all its parts, the more perfectly it fills its office. There is one fact associated with these cases to which but few of you, perhaps, have given a thought: that is the ever present and painful consciousness of physical deformity which the patient has, and the fact that his maimed condition closes to him many avenues of honorable, useful, and lucrative employment. This applies especially to the case of civilians; to the soldier it is different; to him the loss of part of a limb is unchallenged testimony of gallant and heroic sacrifice.

DR. L. K. BALDWIN: I have been much interested in the remarks of Dr. Price, partly because a gentleman called at my office this afternoon and asked me to look at an abrasion on the stump of amputated limb. The amputation had been performed at the junction of the middle and lower third. It was just such a stump as I thought that he ought not to have had. The operation was performed ten or twelve years ago, and although he has worn a number of legs, the stump is always getting rubbed. The remarks of Dr. Price in regard to amputations near the joint are very good. There is no one more capable of speaking upon this subject than Dr. Price himself, for there is nothing like practical experience. His remarks are worthy of all consideration, and it would be well if they were followed out.

DR. JAMES COLLINS: I have listened with a great deal of earnestness to the remarks of Dr. Price on this question. He comes rich in that experience of suffering that makes men wise. I therefore attach great weight to his words. I could, however, but think that while the doctor is entirely right in his opinions, he may have for-

gotten the lectures given at the time he graduated. I have heard the professor of surgery say, and have seen him demonstrate, that the point of election for amputation of the leg was three finger's space below the tubercle of the tibia. I think it well to mention this, and while I admit the great advances which have been made in surgery, yet, I think, that we should not cut entirely loose from all that has been done in the past. With reference to what has been said in regard to long stumps, I think that the surgeons of twenty years ago were deluded by the promises of the artificial limb makers. The artificial limb makers made demonstrations before classes in surgery, and led the surgeons to believe that if they had a certain form of stump they could apply the limbs better. They described their wonderful limbs that could almost walk without a man attached to them, and thus to a certain extent deceived the surgeon.

DR. O. H. ALLIS: I would ask Dr. Price if in a case of injury to the foot, he would take off the limb, say at the tarso-metatarsal joint, or go to the point of election below the knee?

DR. M. PRICE: I should prefer to operate at the point of election. I think that even in an injury which would require amputation of the great toe, the patient would be more comfortable and walk better if the limb were taken off below the knee, although I do not say that I should do it.

(To be concluded.)

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

Progressive Muscular Atrophy—Tumor of the Cerebellum—The Pathology of Spasm—Death of Dr. John C. Dalton—The Middleton Goldsmith Lecture.

Dr. Landon Carter Gray, who has recently been elected Chairman of the Section on Neurology of the Academy of Medicine, presented at the last meeting of the Section a remarkable case of *Progressive Muscular Atrophy*. It was an instance of the so-called *juvenile type* of this affection, as described by Erb, of Heidelberg, in 1884, and he said it was the finest case—indeed the only pure case—that he had ever seen. The limitation of the atrophy and hypertrophy was exactly as described by Erb. He believed that this was the first case that had been described in this country, although a case of Dr. Putzell's, given in the "Reference Note-book of the Medical Sciences," was very closely akin to this type; differing, however, in the distribution of the atrophy, in the presence of marked sensory symptoms, and in the onset of the disease with slight cerebral symp-

toms. Dr. Gray did not hesitate to say that he had but little faith in this matter of type-making, because of the failures of the predecessors of Erb in this line, viz.: Hemptenmacher, Eichhorst, Zimmerlin, Leyden, Moebius, and others. He then went on to speak at some length of his reasons for believing that this type often merges into others.

Dr. J. Arthur Booth then read a report, illustrated with drawings, of a most interesting case of *Tumor of the Cerebellum*. It was a case which he saw in consultation, the patient being a girl 10 years of age, and one instructive point about it was that at first the diagnosis of tubercular meningitis was made. Tumor of the cerebellum was considered, but the absence of optic nerve changes and the presence of an elevated temperature with irregular pulse seemed to indicate the disease mentioned.

When 3 years old the girl had a fall down a flight of steps, striking her head on the stone walk, and the earlier symptoms of her last illness, which began nine or ten months before her death, consisted of loss of flesh, indisposition to exertion, irritability of temper, attacks of headache and vomiting, and more or less pain in the back part of the head and neck, principally on first waking in the morning. It was also noticed that she carried her head as though the neck was somewhat stiff. When first examined by Dr. Booth, about six months before her death, she was found to be dull, listless, very weak, and suffering from severe head pain. There was marked sensitiveness to touch all over the head, and especially just below the occiput, and the posterior cervical glands were quite large. Vision was apparently normal and there were no changes shown in the fundus by the ophthalmoscope, while the temperature was 105.6 and the pulse was irregular.

Within a week, however, commencing optic neuritis was detected, and shortly after this the patient was attacked with convulsions, which recurred five or six times a day. These consisted of tonic spasm of the limbs and drawing up of the right side of the lip and nose; the right eye being tightly closed and the left wide open. Consciousness, however, was rarely entirely lost. The symptoms were now regarded as pointing to the presence of intracranial, and probably cerebellar, growth, and the patient's condition gradually worse until about a month and a half before her death, when she became totally blind and the ophthalmoscope showed advanced atrophy of both optic nerves. At this time she lay most of the time in a semi-comatose state and had occasional attacks of *petit mal*. There was now paralysis of right side of face, partial paraplegia, and paresis of the left arm, and the following bullar symptoms had also appeared: impaired articulation, difficult deglutition, and polyemia. There

had been for some time a gradual enlargement of the head, and during the last two or three weeks of life some separation of the coronal sutures was noticed.

At the autopsy the whole head was found very much enlarged, and the frontal and parietal bones were very thin and separated at the sutures to a marked degree. The dura mater was very thick and distended, and on puncturing it a large quantity of clear fluid gushed out. The convolutions were flattened, and the whole brain was pale, flabby and softened. The lateral ventricles were much dilated and contained a large amount of fluid; while the medulla was compressed and softened. Directly between the lateral lobes of the cerebellum there was found a large nodular growth, 3 inches long, $1\frac{1}{4}$ inches wide, and $1\frac{1}{4}$ inches in its vertical diameter. It was attached to the right lobe, occupying quite an extensive hollowed-out space in the lobe, and also extended into the fourth ventricle, pushed the medulla to the left, and pressed upon the right crus of the cerebellum. The microscopic examination of the tumor showed a large number of spindle cells, medium in size, imbedded in an abundant granular and fibrillated stroma, with a rich vascular supply. The walls, being composed of embryonic tissue, were quite thick, and gave the growth the appearance of angio-sarcoma.

The principal paper of the evening was by Dr. Graeme M. Hammond, on *The Pathology of Spasm*. On this occasion he treated of spasm of cerebral origin and due only to undoubted organic lesion; reserving the consideration of the subject of spasm in all its details for a subsequent paper which he has in contemplation. Having remarked that the only two forms which we could recognize at the present day were tonic, or spastic spasm, and that known as clonic, or mobile spasm, in which the muscles are either the seat of regular or rhythmic contractions (tremor), or are affected with incoördinate, irregular movements, variously designated as chorea, athetosis, and ataxia, he said that in regard to the seat of the pathological lesion in the former, all the authorities were agreed, viz.: that it must be in the white conducting fibres of the motor tract. In regard to the situations of the pathological lesions of mobile spasms, however, the authorities were more or less at variance in their opinions; and having referred to the views of Demarge, Sharkey, Kohler and Pick, Stephan, Charcot, Nothnagel, and others, he said that it was in the hope of throwing a little more light on a subject thus clouded in obscurity that he had undertaken the present investigation.

After some preliminary remarks on the selection of cases he took up each variety of mobile spasm separately, commencing with paralysis agitans. In considering this affection, as all the other varieties of this form of spasm, except that

due to disseminated sclerosis, he said that he had carefully excluded all those cases in which the lesions were so extensive as to make the cause of the spasm a matter of doubt. He then described the lesions found after death in various cases reported by Demarge, Hamilton, Parkinson, Oppolzer and others, and went on to say that of other cases of paralysis agitans which he had found recorded with autopsies, in some no lesion whatever could be detected, while in others multiple lesions were observed occupying the central ganglia, internal capsule, pons and spinal cord.

In disseminated cerebral sclerosis he said it was very difficult, from the very multiple nature of the disease, to find cases where the symptoms of tremor on voluntary motion only could be attributed to an isolated lesion; yet a few cases of this description were on record. Having referred to cases by Demarge, Gray and Sharkey, he mentioned one of his own, not yet reported, in which the patient began to notice that the left hand was gradually becoming weak and anæsthetic. Shortly afterwards tremor was observed whenever he attempted to use the arm, and these symptoms slowly increased until, in about a year's time, the arm became useless from paresis, anæsthesia and tremor. The patient died of pneumonia, and the autopsy revealed a spot of softness in the posterior-internal portion of the optic thalamus. Many cases, he said, had been observed of lesions scattered throughout the white matter of the brain, without involving the cortex or basal ganglia; but in all these either there had been no tremor present, or else the lesions involved the cell area of the pons.

In regard to the pathological anatomy of athetosis Dr. Hammond stated that he had seen no reason to change the views expressed in his paper on that subject read two years ago before the New York Neurological Society, in which he reported nine cases of athetosis with autopsies. In three the lesions were confined to the corpus striatum, and in two to the optic thalamus. In three cases both these ganglia were involved, and in two the lesion was in the cortex, in the motor region. To these cases three more, collected by Stephan, could be added. In the first two there was softening in the optic thalamus, and in the third the lesion involved both the thalamus and the posterior part of the internal capsule. Similar lesions had been observed in chorea of cerebral origin, either pre- or post-hemiplegic. Mitchell reported two cases in which the lesion was found in the corpus striatum on the opposite side, and Charcot three cases, in the first of which the lesion was situated in the posterior extremity of the optic thalamus, while in the second and third the posterior part of the caudate nucleus and the posterior part of the internal capsule were involved. Similar cases had been reported by Demarge, Raymond, Stephan and others.

The pathological anatomy of cerebral ataxia was in no wise different from that observed in athetosis and chorea. Gower reported a case in which the lesion was found in the left optic thalamus, and Demarge five cases in which the lesions were in the left lenticular nucleus, optic thalamus, and internal capsule, and in the right optic thalamus. Other cases, reported by Reymond, Charcot and others, only added to the number of cases without indicating any other situations of lesions.

Taking these cases together, he said, it could readily be seen that in all of them, without exception, the lesions were found constantly in three areas, viz.: the cortex, the optic thalamus, and the corpus striatum. In a careful examination of all cases it would also be found that when the anterior two-thirds of the internal capsule were involved spastic spasm was invariably present. In a case of Sharkey's, classified under the heading of disseminated sclerosis, which, beginning with tremor on one side, soon passed into a condition of spastic spasm, while a gradual onset of tremor occurred in the other side, both optic thalami were found involved, but only one internal capsule. Sharkey regarded all the symptoms as attributable to invasion of the internal capsule; but Dr. Hammond was of the opinion that only the spastic spasm, which was confined to one side, had been produced by the lesion in the internal capsule, while the bilateral tremors were due to the implication of the optic thalami.

In conclusion, he said that from a study of these cases he could not agree with Demarge and Sharkey that mobile spasm may be due to irritation of any part of the motor tract, nor with Stephan that the lesion is in the optic thalamus, nor with Charcot that it is in the thalamus and, in addition, the posterior third of the internal capsule; but he believes that it may be produced by any lesion of an irritative nature situated in any part of the brain where nerve cells are located. These cells being located in the cortex, optic thalamus, corpus striatum and pons, the difference in the form of the spasm, he thought, was one of degree, and not one depending on the location of the lesion; and it was impossible, therefore, to differentiate between a lesion of the cortex, optic thalamus and corpus striatum.

The intelligence of the death of Dr. John C. Dalton, whose achievements as a physiologist have done so much to make American scientific medicine honored abroad, will be received with sincere regret throughout the civilized world; and the New York College of Physicians and Surgeons is to be especially commiserated on having lost from its Faculty within the space of a few months three men so preëminent in their respective departments as Dalton, Sands and Agnew. Professor Dalton had not been engaged in teaching since 1883, when he resigned the chair of Physiology, which he had held since 1855, to ac-

cept the Presidency of the College; but his services to the institution with which he had been so long identified have been of the highest possible value during the important time of the erection and fitting up of its present magnificent building and the arrangement of its improved courses of study.

The Middleton Goldsmith Lecture for 1889 was delivered, under the auspices of the New York Pathological Society, in the hall of the Academy of Medicine, February 16, by Reginald H. Fitz, M.D., of Boston, Shattuch Professor of Pathology in the Harvard Medical School; his subject being: "Acute Pancreatitis, with an especial consideration of Pancreatic Hæmorrhage, Hæmorrhagic Pancreatitis, and Subperitoneal Fat Necrosis." It is gratifying to learn that the Pathological Society has been generously provided by the College of Physicians and Surgeons with suitable quarters and a permanent home in the new buildings of the College.

P. B. P.

Transactions of the Ninth International Medical Congress.

Dear Sir:—There are a number of volumes of the Transactions of the Ninth International Medical Congress on hand, belonging to members who have omitted to notify me of their change of address. On being notified of their present address, the volumes will be sent by express. Very truly yours,

JOHN B. HAMILTON.

ASSOCIATION ITEMS.

Section on State Medicine.

The following named gentlemen have promised papers for presentation to the Section on State Medicine at the Newport meeting of the Association:

Dr. N. S. Davis, Chicago, Ill., "The American Medical Association and its Relations to the Public Health."

Dr. F. L. Sim, Memphis, Tenn., "Etiological Relations of Water to Disease."

Dr. H. R. Storer, Newport, R. I., "Volunteer Sanitary Organizations as an Aid to Public Boards of Health."

Dr. W. C. Van Bibber, Baltimore, Md., "Quarantine of the Future."

Dr. John B. Hamilton, Surgeon-General U. S. Marine-Hospital Service; Dr. Henry B. Baker, Lansing, Mich.; Dr. Victor C. Vaughan, Ann Arbor, Mich.; Dr. Oscar C. DeWolf, Chicago, Ill.; Dr. Thos. C. Minor, Cincinnati, O.; Dr. J. R. Briggs, Dallas, Tex.; Dr. Wm. Cabell Rives, Newport, R. I.; have promised papers the subjects of which will be announced later.

It is requested that all gentlemen who intend

to present papers send the titles thereof, together with their name and address to the undersigned.

S. T. ARMSTRONG,

Secretary Section on State Medicine.

U. S. Marine-Hospital Service, New York City, N. Y.

MISCELLANY.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA announces that the first triennial prize of two hundred and fifty dollars under the deed of Mrs. Wm. F. Jenks, has been awarded by the Prize Committee of the College of Physicians of Philadelphia to John Strahan, M.D., M.Ch., M.A.O. (Royal University, Ireland), 247 North Queen Street, Belfast, Ireland, for the best essay on "The Diagnosis and Treatment of Extra-Uterine Pregnancy." The writers of the unsuccessful essays can have them returned to any address they may name, by sending it and the motto which distinguished the essay to the Chairman of the Prize Committee, Elwood Wilson, M.D., College of Physicians, Philadelphia. The Trustees have made arrangements with Messrs. P. Blakiston, Son & Co., 1012 Walnut St., Philadelphia, for the publication of the successful essay, which will also appear in the Transactions of the College for 1890.

LETTERS RECEIVED.

N. D. Gaddy, M.D., North Vernon, Ind.; G. Minges, M.D., Dubuque, Ia.; Lambert Pharmacal Co., St. Louis, Mo.; R. J. Dunglison, M.D., Philadelphia, Pa.; P. O. Hooper, M.D., Little Rock, Ark.; F. H. Allen, M.D., Haverhill, Mass.; Wm. C. Woodward, Washington, D.C.; Parke, Davis & Co., Detroit, Mich.; L. C. Moore, M.D., Blue Grass, Ia.; Battle & Co., St. Louis, Mo.; Thos. Leeming & Co., New York; G. F. Cook, M.D., Oxford, O.; Perfection Douche, Albany, N. Y.; Julia B. de Forest, New York; Lehn & Fink, New York; Geo. P. Rowell & Co., New York; A. B. Younkman, M.D., Breckenridge, Ind.; N. Roe Bradner, M.D., Burlington, N. J.; D. W. Bland, M.D., Pottsville, Pa.; J. H. Eskridge, M.D., Chicago, Ill.; Cyrus Kindreck, M.D., Litchfield Corners, Me.; P. Blakiston, Son & Co., Philadelphia, Pa.; O. C. Franke, M.D., New York; Carl L. Jensen Co., New York; Kent K. Wheelock, M.D., Ft. Wayne, Ind.; H. W. Loel, St. Joseph, Mo.; John J. Miller, M.D., Wellston, Mo.; Reed & Carnrick, New York; J. P. Elliott, M.D., 49 Chambers St., Boston, Mass.; John A. Larrabee, M.D., Louisville, Ky.; John S. Coleman, M.D., Augusta, Ga.; E. F. Wilson, M.D., Columbus, O.; A. M. Crane, M.D., Marion, O.; H. T. Bahnsom, M.D., Salem, N. C.; Kenyon News Agency, Chicago, Ill.; R. Harvey Reed, M.D., Mansfield, O.; Edmund Andrews, M.D., Chicago; I. Halderstein, New York; J. J. Conner, M.D., Pana, Ill.; C. W. Driesbach, Cleveland, O.; W. D. DeLong, M.D., Pikesville, Pa.; S. N. Nelson, M.D., Boston, Mass.; Dr. Woodruff, London, Ont.; M. Northrup, M.D., Port Huron, Mich.; Chas. W. Hitchcock, M.D., Detroit, Mich.; Chas. F. Mason, Harvard University; W. H. Wenning, M.D., Cincinnati, O.; W. J. Conklin, M.D., Dayton, O.; J. W. Gleitsmann, M.D., New York; Mutual Life Insurance Co. of New York; J. G. Carpenter, M.D., Stanford, Ky.; Wm. D. McGowan, Lyonier, Pa.; J. F. McKnight, M.D., Walnut Hill, Ark.; W. C. Wile, M.D., Danbury, Conn.; Union Pacific Railway Co.; P. H. Millard, M.D., St. Paul, Minn.; E. H. M. Sell, M.D., Allentown, Pa.; J. D. Munson, M.D., Traverse City, Mich.; W. N. Yates, M.D., Cincinnati, Ark.; L. H. Dunning, M.D., South Bend, Ind.; D. C. English, M.D., New Brunswick, N. J.; J. R. McGill, Milwaukee, Wis.; J. P. Preston, M.D., Decorah, Ia.; S. Solis-Cohen, M.D., Philadelphia; Scott & Bowne, New York.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 16, 1889, to February 22, 1889.

Major J. V. Lauderdale, Surgeon U. S. Army, is granted leave of absence for one month, to take effect between March 1 and 15 next. Par. 2, S. O. 9, Hdqrs. Dept. of Texas, San Antonio, February 15, 1889.
By direction of the Secretary of War, Capt. Fred. C. Ainsworth, Asst. Surgeon, will proceed to New York City and Brooklyn, N. Y., on public business. Par. 15, S. O. 38, A. G. O., Washington, February 14, 1889.
By direction of the President, Capt. Robert W. Shufeldt, Asst. Surgeon, will proceed to Ft. Leavenworth, Kan., and report in person to Brig.-Gen. Wesley Merritt, President of the Army Retiring Board at that place, for re-examination by the Board, and on the conclusion of his examination will return to this city. Par. 13, S. O. 40, A. G. O., Washington, D. C., February 16, 1889.
By direction of the Secretary of War, Capt. James E. Pilcher, Asst. Surgeon, will repair from Ft. Wood, New York Harbor, to Philadelphia, Pa., on or about February 23, 1889, for the purpose of giving instruction to the hospital corps of the First Brigade National Guards of Pennsylvania. On completion of this duty will return to his proper station. Par. 1, S. O. 4, A. G. O., February 18, 1889.
First Lieut. Henry S. T. Harris, Asst. Surgeon U. S. Army, will proceed to Ft. Davis, Texas, so as to arrive there on or before February 25, and report to the commanding officer thereof for temporary duty. Upon return of Surgeon Lauderdale from leave of absence, Asst. Surgeon Harris will return to the Post of San Antonio. Par. 3, S. O. 9, Hdqrs. Dept. of Texas, San Antonio, February 15, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending February 23, 1889.

P. A. Surgeon P. M. Rixey, promoted to Surgeon November 27, 1888.
Surgeon Geo. P. Bradily, ordered to hold himself in readiness for duty about March 1 to "Mohican."
Asst. Surgeon Geo. A. Lung, ordered to hold himself in readiness for duty about March 1 to "Mohican."
P. A. Surgeon H. T. Percy, detached from Naval Hospital, Washington, and to the coast survey str. "Patterson."
P. A. Surgeon Robt. Whiting, detached from coast survey Str. "Patterson," proceed home and wait orders.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Four Weeks Ending February 23, 1889.

Surgeon H. W. Austin, to proceed to Green Bay, Wis., as inspector. February 9, 1889.
P. A. Surgeon John Guitéras, granted leave of absence for sixty days, with permission to go abroad. February 13, 1889.
P. A. Surgeon W. A. Wheeler, order to proceed to Cleveland, O., revoked. February 9, 1889.
P. A. Surgeon S. C. Devan, to proceed to Charleston, S. C., Savannah, Ga., and South Atlantic Quarantine Station, as inspector. February 9, 1889.
P. A. Surgeon Eugene Wasdin, to proceed to Charleston, S. C., and assume charge of the Service. February 23, 1889.

DEATH.

P. A. Surgeon F. M. Urquhart, died at Evansville, Ind., February 14, 1889.

CORRIGENDA.

IN THE JOURNAL of February 16, p. 250, for "Drs. G. T. and G. S.," read *Drs. J. T. and J. S. Carpenter*. The author of the communication was not Dr. D. W. Beard, but Dr. D. W. Bland, of Pottsville, Pa.

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No. 10.

ORIGINAL ARTICLES.

ELECTRICITY AND THE DEATH
PENALTY.

Read before the Chicago Medico-Legal Society, March 2, 1888.

BY CLARK BELL, Esq.,

PRESIDENT OF THE MEDICO-LEGAL SOCIETY OF NEW YORK.

There has been for more than a quarter of a century in this State a prejudice against the scaffold and the hangman. They that have yielded to the stern exactions of the law, which demands "a life for a life," have felt an almost insurmountable repugnance to the rope. The bungling of a Sheriff's assistant, the negligent or ignorant adjustment of the noose, have often caused such revolting scenes at public executions, as to fill beholders with horror, and add to that ever increasing number, now close to a majority, who demand the entire abolition of the death penalty as a punishment for crime.

The removal of the scaffold, as a factor in the civilization of our century, has engaged the attention of the New York Medico-Legal Society for many years. The first introduction of the subject before that body, was the paper of the eminent French scientist, Ambrose Tardieu, entitled "Diagnosis of Hanging."

The late Dr. Alonzo Calkins read a paper before that Society in September, 1873, entitled "Felonious Homicide; its Penalty and the Execution thereof Judicially,"¹ advocating the abolition of death by hanging, and discussing various methods as desirable substitutes.

The discussion was renewed before the Society, by Prof. J. H. Packard, of Philadelphia, who strongly urged the abolition of the hangman's rope, and recommended as the most desirable substitute, death by inhalation of sulphuric oxide gas.²

The whole subject was again brought before the Medico-Legal Society in February, 1888, by Dr. J. Mount Bleyer, in a paper entitled "Best Methods of Capital Punishment."³

The Legislature of the State, upon the recom-

mendation of Governor Hill in his messages of 1885 and 1886, named a commission, composed of Hon. Elbridge T. Gerry (a member of the Medico-Legal Society), Mathew Hale, Esq., of the Albany Bar, and Dr. Alfred P. Southwick, of Buffalo, to examine the subject and report their conclusions. On January 17, 1888, this committee submitted their report to the Legislature of New York. It is a very exhaustive and elaborate document, too long for insertion here. It gives the history of human punishments for crimes, in earliest times, and in all countries. It enumerates and describes thirty-four different methods in which the death penalty has been hitherto inflicted.

The guillotine is in vogue in nineteen civilized countries, the sword in nineteen, the gallows in three, the axe in one, and the cord in one; while executions are public in twenty-nine countries, and private in seven.

The committee claim and enumerate the following, as facts demonstrated by their inquiry:

"1. That the effort to diminish the increase of crime by the indiscriminate application of capital punishment, to various offenses involving different grades of moral turpitude; or, in other words, by enlarging the number of capital offenses has proved a failure.

"2. That any undue or peculiar severity, in the mode of inflicting the death penalty, neither operates to lessen the occurrence of the offense, nor to produce a deterrent effect.

"3. That from the long catalogue of various methods of punishment, adopted by various nations at different times, only five are now practicably resorted to, by the civilized world. These five are: 1. The guillotine; 2. the garrote; 3, shooting; 4, the sword; 5, the gallows.

"In recommending a change from the present barbarous and inhuman system of hanging, four substitutes are considered: 1. Electricity; 2. prussic acid or other poison; 3, guillotine; 4. garrote."

This Committee do not seem to have considered the proposal made by Prof. Packard, of a painless death by inhaling sulphuric oxide gas in a small room in each jail, nor the Lethal Chamber suggested by Dr. B. Ward Richardson, of London; and they discard the use of the hypodermic in-

¹ Medico-Legal papers, series 3, p. 40.

² Medico-Legal papers, series 2, p. 254.

³ Medico-Legal papers, series 3, p. 521.

⁴ Medico-Legal Journal, Vol. v, p. 424.

jection of prussic acid, or other deadly poison; "as hardly advisable, because against the almost universal protest of the medical profession!"

Their conclusions, after a careful, thorough, able and exhaustive examination of the whole subject are as follows:

1. That death produced by a sufficiently powerful electric current is the most rapid and humane, produced by any agent at our command.
2. That resuscitation after the passage of such a current through the body and functional centres of the brain, is impossible.

3. That the apparatus to be used should be managed so as to permit the current to pass through the centres of function and intelligence in the brain.

The commission suggested other considerations of great public interest, which may be stated as propositions:

1. That the State by the present universal sentiment of mankind, can only justify itself in taking human life, as a punishment for violation of laws, inflicting the death penalty, when necessary, for the safety of Society, and to deter others from the commission of crime.

2. That the State has not the right to torture the criminal, nor to inflict any punishment whatever, in any vindictive spirit, or by way of retaliation for the crime.

The Committee submitted a draft of a bill and recommended:

- a. That executions should be private.
- b. That the details of the execution should not be furnished to the public press and;
- c. That the bodies should be delivered to medical schools for dissection in aid of science, or be buried in the prison yard.

The idea of punishment for crime, has colored all human laws. Such legislation has been called *punitiva* for centuries. These statutes are denominated *penal* in all the Codes.

It is a little more than half a century, since hanging was the penalty in England for more than one hundred statutory offences, many of which are now regarded as trivial. Nearly all of these are abolished; but we still call the measure of punishment *penalties* and we even say "*the death penalty*" when we discuss it, and use the term "*capital punishment*" for judicial killing.

The value of the report of the Legislative Commission, considered in its broadest and ablest aspect outside the abolition of hanging, and substituting the Electric Current lies; in claiming that the universal public judgment and opinion of mankind should be recognized by the law making power, declaring:

That the penalty for violations of law, in what are called "capital cases," should not hereafter be regarded or treated as punitive.

That the State does not claim the right of inflicting any punishment upon the homicide, in a

vindictive or retaliatory sense, or as in any degree or view, as "punitive" or "compensatory" for the act committed.

That beyond the protection of Society, the rights of men, and what is called the "deterrent effects" of human punishment, the State has neither the right nor wish to go.

The Medico-Legal Society, by a Committee appointed February, 1888, duly considered the whole subject, and the report of that Committee was made to the body at the March Meeting 1888, unanimously adopted by the Society, and transmitted to the Legislature.

The report was prepared by me and met the approval of the entire Committee and was as follows:

REPORT OF THE COMMITTEE ON BEST METHODS OF EXECUTING CRIMINALS.

To the Medico-Legal Society:

The Committee to whom was referred the subject of the best method of executing the death penalty respectfully report:

That in the consideration of this subject they have considered the several papers read before the Medico-Legal Society by Ambrose Tardieu, Dr. Alonzo Calkins, Prof. J. H. Packard, of Philadelphia, Dr. J. Mount Bleyer, and the report of Hon. Eldridge T. Gerry, Alfred P. Southwick, M.D., and Mathew Hale, Esq., Commissioners, made to the Legislature on January 17, 1888, which were by action of this Society, laid before this Committee at the February meeting.

Your Committee are of the opinion that the Commissioners are entitled to the thanks of the Legislature and the public, for the able and exhaustive labor, they have bestowed upon the subject. Your Committee are of the opinion:

1. That the reduction by legislation in number among civilized States, of what are designated as capital offenses is in accord with enlightened civilization, and that its practical result has been the diminution, rather than the increase of crime.
2. That it should be legally established, by legislative enactments; that the State in fixing penalties for crimes, has no right to inflict a vindictive punishment upon a criminal, in any spirit of vengeance or retaliation.

That the object and justification of punishment should be to deter others, from the commission of crime.

3. That the provisions of our Constitution "that cruel and unusual punishments shall not be inflicted," should be enforced by appropriate legislation, and all existing statutes repugnant to either its letter or spirit, be repealed.

4. That hanging should be abolished as cruel, and contrary to the public sense of our civilization.

5. That as a substitute for the present death penalty, we would recommend:

1. Death by electric current, or,
2. Death by hypodermatic, or other injection of poison, or,
3. Death by carbonic oxide gas injected into a small room in each jail, as recommended by Prof. John H. Packard (Med.-Leg. papers, Vol. iii, p. 521), giving our preference to the first, or death by electric current.
6. That in our judgment executions, should be private, and not public.
7. That if it were possible, to prevent the publication of details of executions in the public press, it would be a public good.
8. That the bodies of criminals, should be delivered to the medical schools, after execution for dissection.

Your Committee do not pass upon the question, of the propriety of inflicting capital punishment by the State, against which there is strong objection in the popular mind.

The report is intended to be limited to the subjects embraced in the report now before the Legislature of the State, and the papers read before this Society.

R. Ogden Doremus, Clark Bell, J. Mount Bleyer, M.D., Chas. F. Stillman, M.D., Frank H. Ingram, M.D., Committee.

The Legislature of New York passed the following law, which received the approval of Governor Hill.

LAWS OF NEW YORK.—BY AUTHORITY.

[Every law, unless a different time shall be prescribed therein, shall commence and take effect throughout the State, on and not before the twentieth day after the day of its final passage, as certified by the Secretary of State. See 12, title 4, chap. 7, part 1, Revised Statutes.]

CHAP. 489. AN ACT to amend sections four hundred and ninety-one, four hundred and ninety-two, five hundred and three, five hundred and four, five hundred and five, five hundred and six, five hundred and seven, five hundred and eight, and five hundred and nine of the Code of Criminal Procedure relative to the infliction of the death penalty, and to provide means for the infliction of such penalty.

Approved by the Governor June 4, 1888. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Section four hundred and ninety-one of the Code of Criminal Procedure of the State of New York is hereby amended so as to read as follows:

§ 491. When a defendant is sentenced to the punishment of death, the judge or judges holding the court at which the conviction takes place, or a majority of them, of whom the judge presiding must be one, must make out, sign and deliver to the sheriff of the county, a warrant stating the

conviction and sentence, and appointing the week within which sentence must be executed. Said warrant must be directed to the Agent and Warden of the State prison of this State, designated by law as the place of confinement for convicts sentenced to imprisonment in a State prison in the judicial district wherein such conviction has taken place, commanding such Agent and Warden to do execution of the sentence upon some day within the week thus appointed. Within ten days after the issuing of such warrant, the said sheriff must deliver the defendant, together with the warrant, to the Agent and Warden of the State prison therein named. From the time of said delivery to the said Agent and Warden, until the infliction of the punishment of death upon him, unless he shall be lawfully discharged from such imprisonment, the defendant shall be kept in solitary confinement at said State prison, and no person shall be allowed access to him without an order of the court, except the officers of the prison, his counsel, his physician, a priest or minister of religion, if he shall desire one, and the members of his family.

§ 2. Section four hundred and ninety-two of said Code of Criminal procedure is hereby amended so as to read as follows:

§ 492. The week so appointed must begin not less than four weeks and not more than eight weeks after the sentence. The time of the execution within said week shall be left to the discretion of the Agent and Warden to whom the warrant is directed; but no previous announcement of the day or hour of the execution shall be made, except to the persons who shall be invited or permitted to be present at said execution as hereinafter provided.

§ 3. Section five hundred and three of said Code of Criminal Procedure, is hereby amended so as to read as follows:

§ 503. Whenever, for any reason other than insanity or pregnancy, a defendant sentenced to the punishment of death has not been executed pursuant to the sentence, at the time specified thereby, and the sentence of judgment inflicting the punishment stands in full force, the Court of Appeals or a judge thereof, or the Supreme Court or a justice thereof, upon application by the Attorney-General or of the district attorney of the county where the conviction was had, must make an order directed to the Agent and Warden or other officer in whose custody said defendant may be, commanding him to bring the convict before the Court of Appeals or a general term of the Supreme Court in the Department; or a term of the court of oyer and terminer in the county where the conviction was had. If the defendant be at large, a warrant may be issued by the Court of Appeals or a judge thereof, or by the Supreme Court or a justice thereof, directing any sheriff or other officer to bring the defendant before the

Court of Appeals or the Supreme Court at a general term thereof, or before a term of the court of oyer and terminer in that county.

§ 4. Section five hundred and four of said Code of Criminal Procedure is hereby amended so as to read as follows :

§ 504. Upon the defendant being brought before the court, it must inquire into the circumstances, and if no legal reason exists against the execution of the sentence, it must issue its warrant to the Agent and Warden of the State prison mentioned in the original warrant and sentence, under the hands of the judge or judges, or a majority of them, of whom the judge presiding must be one, commanding the said Agent and Warden to do execution of the sentence during the week appointed therein. The warrant must be obeyed by the Agent and Warden accordingly. The time of the execution within said week shall be left to the discretion of the Agent and Warden to whom the warrant is directed ; but no previous announcement of the day or hour of the execution shall be made, except to the persons who shall be invited or permitted to be present at said execution as hereinafter provided.

§ 5. Section five hundred and five of said Code of Criminal Procedure is hereby amended so as to read as follows :

§ 505. The punishment of death must, in every case, be inflicted by causing to pass through the body of the convict a current of electricity of sufficient intensity to cause death, and the application of such current must be continued until such convict is dead.

§ 6. Section five hundred and six of said Code of Criminal Procedure is hereby amended so as to read as follows :

§ 506. The punishment of death must be inflicted within the walls of the State prison designated in the warrant, or within the yard or inclosure adjoining thereto.

§ 7. Section five hundred and seven of said Code of Criminal Procedure is hereby amended so as to read as follows :

§ 507. It is the duty of the Agent and Warden to be present at the execution, and to invite the presence, by at least three days' previous notice, of a justice of the Supreme Court, the district attorney, and the sheriff of the county wherein the conviction was had, together with two physicians and twelve reputable citizens of full age, to be selected by said Agent and Warden. Such Agent and Warden must, at the request of the criminal, permit such ministers of the gospel, priests or clergymen of any religious denomination, not exceeding two, to be present at the execution ; and, in addition to the persons designated above, he may also appoint seven assistants or deputy-sheriffs who may attend the execution. He shall permit no other person to be present at such execution except those designated in this

section. Immediately after the execution a post-mortem examination of the body of the convict shall be made by the physicians present at the execution, and their report in writing stating the nature of the examination, so made by them, shall be annexed to the certificate hereinafter mentioned and filed therewith. After such post-mortem examination the body, unless claimed by some relative or relatives of the person so executed, shall be interred in the graveyard or cemetery attached to the prison, with a sufficient quantity of quick-lime to consume such body without delay ; and no religious or other services shall be held over the remains after such execution ; except within the walls of the prison where said execution took place, and only in the presence of the officers of said prison, the person conducting said services and the immediate family and relatives of said deceased prisoner. No account of the details of any such execution, beyond the statement of the fact that such convict was on the day in question duly executed according to law at the prison, shall be published in any newspaper. Any person who shall violate or omit to comply with any provision of this section shall be guilty of a misdemeanor.

§ 8. Section five hundred and eight of said Code of Criminal Procedure, is hereby amended so as to read as follows :

§ 508. The Agent and Warden attending the execution must prepare and sign a certificate, setting forth the time and place thereof, and that the convict was then and there executed, in conformity to the sentence of the court and the provisions of this Code, and must procure such certificate to be signed by all the persons present and witnessing the execution. He must cause the certificate, together with the certificate of the post-mortem examination mentioned in the preceding section, and annexed thereto, to be filed within ten days after the execution, in the office of the clerk of the county in which the conviction was had.

§ 9. Section five hundred and nine of said Code of Criminal Procedure, is hereby amended so as to read as follows :

§ 509. In case of the disability, from illness or other sufficient cause, of the Agent and Warden to whom the death warrant is directed, to be present and execute said warrant, it shall be the duty of the principal keeper of said prison, or such officer of said prison as may be designated by the Superintendent of State Prisons, to execute the said warrant, and to perform all the other duties by this act imposed upon said Agent and Warden.

§ 10. Nothing contained in any provision of this act applies to a crime committed at any time before the day when this act takes effect. Such crime must be punished according to the provisions of law existing when it is committed, in

the same manner as if this act had not been passed; and the provisions of law for the infliction of the penalty of death upon convicted criminals, in existence on the day prior to the passage of this act, are continued in existence and applicable to all crimes punishable by death, which have been or may be committed before the time when this act takes effect. A crime punishable by death committed after the beginning of the day when this act takes effect, must be punished according to the provisions of this act, and not otherwise.

§ 11. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 12. This act shall take effect on the first day of January, one thousand eight hundred and eighty-nine, and shall apply to all convictions for crimes punishable by death, committed on or after that date.

STATE OF NEW YORK,)
Office of the Secretary of State,) ss.

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

FREDERICK COOK,
Secretary of State.

This statute going into effect January 1, 1889, the writer felt it the duty of the body to consider, for the benefit of public officials, "what was the best method of carrying the same into effect," and recommended to the Society the appointment of a committee to consider this subject and report.

A preliminary report was made by this Committee at the November meeting, 1888, which was laid over for discussion to the December meeting, 1888.

That Committee there made a detailed report, which was, after discussion, unanimously adopted by the body.

The report is as follows

REPORT OF THE COMMITTEE OF THE MEDICO-
LEGAL SOCIETY ON THE BEST METHOD OF
EXECUTION OF CRIMINALS BY ELEC-
TRICITY.

Introductory.—In the six weeks that have elapsed since the preparation of our original report to the Society we have made further valuable experiments, and although our report had not as yet been officially printed, we have received so many useful suggestions and criticisms upon such portions as had been given to the public in the press—both through correspondents and through discussions in various papers and journals—that we are enabled to present at this meeting a fuller and more explicit expression of our opinions. The additional light thrown upon a difficult problem has permitted us to make a few slight alterations in our earlier report, and to subjoin an appendix for the better elucidation of the subject.

The Report.—To the President and Members of the Medico-Legal Society: Your Committee appointed at the September meeting to consider and advise upon the proper method of executing criminals by electricity, reports as follows:

The law recently passed by the Legislature of the State of New York, providing for the administration of capital punishment by electricity, goes into effect January 1, 1889. All murderers sentenced to death for crimes committed on or after that date are to die by this means. As the use of electricity is an entirely novel method of putting to death human individuals, the manner of the application of the lethal current requires some thoughtful care and study.

The Commission appointed by the Governor to examine into various methods of causing death, which should be more humane than hanging, decided upon electricity. This Commission caused certain experiments to be carried out upon dogs, by which it was proven that electricity will produce certain and instantaneous death. In these experiments the animals were placed in a zinc-lined box half filled with water connected with one pole, while the other pole, in the shape of a wire, was wound around the nose or inserted into the mouth. There are no data as to the amount or kind of electricity employed. This method, although successful, is hardly applicable to a human being.

Some experiments were conducted by one of our Committee (Dr. J. Mount Bleyer), and reported in the *Humboldt Scientific Library*, March, 1887; and during the past summer a series of thirty or more careful experiments were made upon dogs with death currents at the Edison Laboratory, in New Jersey, by Messrs. Harold P. Brown and A. E. Kennelly, and the Chairman of this Committee (Dr. Frederick Peterson), all of which are of particular value to us in suggesting the proper method of executing criminals by electricity. These last were published in detail in the *Electrical World*, August 8, 1888, and from them we have ascertained the following points:

The resistance of these dogs was measured and found to vary from 3,600 to 200,000 ohms, depending upon the differing thicknesses of skin and hair, and the amount of moisture between the skin and the electrodes. The amount of electro-motive force was also accurately determined, and it was found that with the alternating current as low as 160 volts was sufficient to kill a dog, and that with the continuous current a much higher voltage was necessary for the production of a fatal effect.

There are several points requiring thoughtful consideration in the application of death currents to man which we will now proceed to lay before you.

The average resistance of the human body is

about 2,500 ohms. The most of this resistance is in the skin. It is evident, therefore, that the larger the surface of the electrode applied to the body the less will be the resistance. But it is also a fact that the density of the current depends upon the superficial area of the electrode. With a pole of small diameter the passing current will be more dense than when an electrode of large sectional area is applied.

We think that immersion of the body in a large quantity of water to act as one pole, or the placing of large metal plates upon any part of the body, should be put entirely out of consideration. It is further well known that if metal be directly in contact with the skin during the passage of an electric current burns and lacerations are apt to be produced.

We believe that all means hitherto suggested are open to criticism upon these grounds. The posture of the criminal requires also some discussion at our hands. We think there are serious objections to the employment of any apparatus in which the prisoner takes a standing position. There are so many histories of unseemly struggles and contortions on the part of criminals executed by the old methods that the necessity of some bodily restraint is evident. Furthermore, the possibility of a tetanic contraction of the body from the shock of the current is to be borne in mind. In our opinion, the recumbent or the sitting position is best adapted to our purpose.

Another question of importance is to which part of the body the two poles should be applied. There can be no doubt that one electrode should be in contact with the head. The other might be placed upon any portion of the body, upon the trunk or extremities, but there are obvious reasons why the neighborhood of the spinal cord would be more advantageous. The electric current, in passing through the body from one pole to another, undergoes more or less diffusion through the tissues. A current passing from the top of the head to the small of the back will be diffused throughout a great part of the brain, and all of the tissues of the neck. The medulla oblongata—a part of the brain which is the most vital—together with all the nerves of the neck and the spinal cord, which exercise jurisdiction over the lungs and heart, will be thoroughly permeated by the current applied in this way. As the seat of consciousness is in the brain, and particularly in the cortex of the cerebrum, it is clear that this faculty of the mind will suffer at once, if the current be sufficiently strong. The electric stream flows from the positive to the negative pole, and there might be some possible advantage in placing the positive pole on the vertex of the head, nearest the center of consciousness, although death in any case will be instantaneous.

After mature deliberation we recommend that

the death current be administered to the criminal in the following manner :

A stout table covered with rubber cloth and having holes along its borders for binding, or a strong chair should be procured. The prisoner, lying on his back, or sitting, should be firmly bound upon this table, or in the chair. One electrode should be so inserted into the table, or into the back of the chair, that it will impinge upon the spine between the shoulders. The head should be secured by means of a sort of helmet, fastened to the table or back of chair, and to this helmet the other pole should be so joined as to press firmly with its end upon the top of the head. We think a chair is preferable to a table. The rheophores can be led off to the dynamo through the floor or to another room, and the instrument for closing the circuit can be attached to the wall.

The electrodes should be made of metal, between 1 and 4 inches in diameter, covered with a thick layer of sponge or chamois skin.

The poles and the skin and hair at the points of contact should be thoroughly wet with a warm aqueous solution of common salt. The hair should be cut short. Provision should be made for preventing any moisture reaching from one electrode to the other.

A dynamo capable of generating an electromotive force of at least 3,000 volts should be employed, and a current used with a potential between 1,000 and 1,500 volts, according to the resistance of the criminal.

The alternating current should be made use of, with alternations not fewer than 300 per second. Such a current allowed to pass for from 15 to 30 seconds will insure death.

APPENDIX.

We append here the experiments in abbreviated tabular form upon which we have based our conclusions :

EXPERIMENTS WITH DEATH-CURRENTS BY MESSRS. BROWN AND KENNELLY AND DR. PETERSON AT THE EDISON LABORATORY AND AT COLUMBIA COLLEGE.

Dog No.	Pounds Weight.	Ohms Resistance.	Character of Current.	Voltage.	Duration of Contact.	Result.
1	10	7,500	Continuous	800	2 seconds	Death
2	20	8,500	Alternating	800	3 "	Death
3	13½	6,000	Continuous	1,000	Instantaneous	Death
4	46½	11,000	Alternating	800	2½ seconds	Death
5	50	6,000	Continuous	1,000, 1,100, 1,200, 1,300, 1,400, 1,420 and 1,200	6 instantaneous shocks, the last 2½ seconds	Unhurt
6	55	3,600	Alternating	570	3 seconds	Death
7	41½	14,000	"	250	5 "	Death
8	50	27,500	"	160	5 "	Death
9	59	5,000	"	260	5 "	Death
10	76	15,000	"	330	5 "	Death
11	61	14,000	"	272	5 "	Death
12	91	8,000	"	340	5 "	Death
13	53	30,000	"	220	30 "	Death

(Details in *Electrical World*, August 8, 1888.)

EXPERIMENTS CONDUCTED BY MR. A. E. KENNELLY, AT THE EDISON LABORATORY.

Dog No.	Pounds Weight.	Ohms Resist-ance.	Character of Current.	Voltage.	Duration of Contact.	Result.
14	21½	..	Alternating	205	3 seconds	Death
15	19½	..	Alternating	176	15 "	Death
16	39½	..	Alternating	178	15 "	Death
17	57½	..	Continuous	400	40 "	Death
18	18½	..	Alternating	140	45 "	Death
19	20	8,000	Alternating	255	35 "	Death
20	16½	4,200	Alternating	418	2 "	Death
21	37½	200,000	Continuous	304	30 "	Un- hurt
22	12½	4,000	Alternating	100	65 "	Death
23	23	11,000	Alternating	500	30 "	Death
24	10	9,700	Alternating	536	1½ "	Death
			Alternating	517	1 "	Death

(Details in *Electrical Review*, September 22, 1888.)

Objections having been made to the dogs on account of the small weight of the animals, the following larger animals were experimented upon by Mr. Harold P. Brown before your committee.

EXPERIMENTS CONDUCTED BEFORE THE COMMITTEE OF THE MEDICO-LEGAL SOCIETY AT THE EDISON LABORATORY, DEC. 5, 1888, BY MR. HAROLD P. BROWN.

	Pounds Weight.	Ohms Resist-ance.	Character of Current.	Voltage.	Duration of Current.	Result.
Horse	1,230	11,000	Alternating	700	25 seconds	Death
Calf	124½	3,200	Alternating	770	8 "	Death
Calf	145	1,300	Alternating	750	5 "	Death

(Details will be reported in *Electrical World*.)

In most of the dogs the poles were bare copper wire around wet cotton waste wound about a fore and opposite hind leg. Poles the same in a horse, but applied to both fore legs. In the calves sponge-covered metal electrodes were applied, one to middle of forehead and one near the spine between the shoulders.

Death with the alternating current was without a struggle; with the continuous, painful and accompanied by howling and struggling.

In the earlier experiments where the alternations were from 660 to 4,100 per minute, the voltage was higher. In most of the experiments the alternations were made from 12,000 to 17,280 per minute, and the number of volts electro-motive force required was decreased.

It was suggested to us that the current should be applied through wristlet electrodes. Acting upon this idea we caused the poles to be applied to the forelegs of the horse, but were disappointed in the result. This method seemed not nearly as effective as our own suggestion of application to the head and back, as was illustrated in the speedy and easy death of the two calves.

Mr. Elbridge T. Gerry, Chairman of the Commission appointed by the Governor, whom we invited to accompany us and witness the last experiments, has suggested that clock-work be employed to make and break the circuit when criminals are executed in this manner, and we

think this a matter worthy of the attention of those who are to carry out the requirements of the law. His request that we specify more particularly the kind of apparatus needed, has led us to make inquiry in this direction. Relative to this matter, Mr. Harold P. Brown, who, by his numerous physiological experiments with death-currents and his high attainments in this department of science, is preëminently qualified to speak with authority upon this subject, recommends as follows:

"I think a portable steam-engine of three-horse-power with a dynamo electric generator of the alternating type, self exciting or with a small exciter, would be preferable. I approve fully the recommendations of your committee in regard to the electro motive force and other details. In my opinion \$5,000 would cover the cost of this apparatus."

If any doubt should exist in the minds of some that electricity would not necessarily be fatal to man because it has been successfully applied to lower animals, we have but to call attention to the fact, that since 1883 some 200 persons have been killed, as we are credibly informed, by the handling of electric lighting wires.

As most of these people were killed probably by contact of the hands with the wires, it shows that in man at least death is rapid in this manner. Hence the suggestions made to this Committee as to the use of wristlet electrodes have their value; and it is possible that this method, with the prisoner fastened in a chair, may ultimately prove the most desirable, as doing away with a complication of appliances and lending greater simplicity to the procedure.

Frederick Peterson, Chairman. R. Ogden Doremus, Frank H. Ingram, J. Mount Bleyer.

Hon. Elbridge T. Gerry, who was named as a member of this Committee, preferred on account of his relation to the Legislative Commission, not to act upon this Committee, and his name is, therefore, not attached to this report. Mr. Henry Guy Carleton, a member of the body, who has given the subject great attention, at the December meeting read a carefully prepared paper on the same subject which was considered at the same session at which the report of the Committee was approved.

The law by its terms goes into effect January 1, 1889, and should be given a fair trial before popular opinion should be excited against it, or any general re-opening of the discussion as to its wisdom. It will be the first attempt made to use the electric current as a means of producing death or as a human punishment.

The Committee of the Medico-Legal Society were authorized and requested to consult electricians, and their report as to the selection of the appropriate current to be used is based as well on

actual experiments as on the highest electrical authority.

Mr. Thomas A. Edison, than whom none can be regarded as a higher authority, has said upon this subject: "The best appliance in this connection is, to my mind, the one which will perform its work in the shortest space of time and inflict the least amount of suffering upon its victim.

"This, I believe, can be accomplished by the use of electricity, and the most suitable apparatus for the purpose is that class of dynamo machinery which employs intermittent currents. The most powerful of these are known as 'alternating' machines. The passage of the current from these machines through the human body, even by the slightest contact, produces instantaneous death."

The plan suggested by the Committee is one which leaves no room for intelligent doubt or criticism, that if followed by the Warden of the State Prison, or other officials, the law, in its spirit and intent, will be perfectly and successfully carried into effect.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

THIRD PAPER—NATURE.

The nature of pneumonic fever has been a subject of warm dispute, and a variety of opinions have been held thereto. Clinically the disease is a many sided one, embracing: *a.* Such marked peculiarities in its general symptoms and morbid anatomy as to invite the belief that it is essentially a constitutional affection with a localization in the lungs. *b.* Constancy in the local changes, the magnitude and severity of which seem so often to govern the gravity of the general symptoms and results, as to lead to the opinion that it is in reality a local affection accompanied by the ordinary symptoms of a grave inflammation of a vital organ.

Three principal views have been held as to the essential nature of the disease: *a.* That it is simply an inflammation of the lungs with constitutional symptoms. *b.* That it is an essential fever in which the lungs bear the brunt of the disease—a veritable pneumonic fever. *c.* That it is neither a purely inflammatory affection nor a true systemic disease, but one occupying an isolated position between these.

These several opinions have had a numerical following within the profession, varying from time to time with the freaks of fashion and the ability, eloquence and persistency of the champions of their respective doctrines. Without going back very far we find that the popular belief has changed thrice in as many generations. A century ago the prevalent opinion, perhaps not

stated in very precise terms, nevertheless expressed and implied, and the conviction acted upon in practice, was that pneumonic fever was a general phlogistic disease with a local affection of the lungs, through which organs the system endeavored to eliminate the morbid material which was irritating the economy and was the real cause of the malady. Later it was generally believed that it was a local inflammatory process, the constitutional symptoms being a sympathetic irritation reflected from the affected organ throughout the general economy. This doctrine reached its greatest ascendancy during the tyrannical reign of the lancet in the first third of the present century. That the malady should be a systemic affection, with a local lesion, although still affirmed by the relics of a former generation and the prophets of a succeeding one, certainly never entered the mind of the rank and file of the medical profession. Now, however, this is the generally accepted and fashionable opinion—the pendulum of belief having swung from one extreme to the other and back again.

The ancients very generally considered it a local inflammation, although an attentive reading of their works will show that more than one author recognized the fact that the morbid action extends beyond the lungs.

Of the celebrated authors of the eighteenth century Cullen and Pringle recognized in this malady only a local inflammation, whilst Huxham, Hoffmann, Boerhaave, Van Swieten, DeHaen and Brown considered it an affection of the entire system.

Huxham¹ and Hoffmann² do not explicitly maintain that the disease is a general one, but from their descriptions and from their employing as its designation the term "*pneumonic fever*," we may infer with probability that they considered it something more than a common inflammation.³ De Haen⁴ thought that in this malady the blood became infected with a *materies morbi* which, in being extruded through the lungs, caused the local inflammation.⁵ Boerhaave⁶ regarded the morbid matter as being generated in the blood of obstructed arteries in the lung, from whence it passed into the bronchi and was expectorated, or, failing in this, it was absorbed by the circulating medium and discharged by the skin, kidneys or bowels as a critical evacuation.⁷ The celebrated author of the Brunonian system⁸ was quite clear in his estimate of the nature of this malady, saying that "the seat of the disease is the whole body," and giving as one of his reasons for this belief the fact that "the inflammation within the

¹ Essay on Fevers, London, 1739.

² Opera Suppl. T. i, p. 165.

³ See Sturges, Nat. Hist. Pneumonia, Lond., 1876, p. 2.

⁴ Rat. Med., Leyden, 1761.

⁵ See Cullen, Prac. Physic., Phila. 1792, vol. i, p. 184.

⁶ Aphorismi de Cognat. et Cur. Morb.

⁷ See Van Swieten's Comment. Aphor. Boerhaavii, Leyden, 1741.

⁸ Brown Elements of Medicine, Portsmouth, 1803, p. 299.

chest, for the most part follows the pyrexia at a considerable interval of time and never precedes it."

During the first three decades of the present century Paris was the medical center of the world and the views of Laennec, Andral and Chomel—the great triumvirate of the French school—are worthy of particular attention because they were probably those of the great mass of physicians of that day.

Laennec⁹ considered pneumonic fever a pure local inflammation, saying that "the fever in peripneumonia is truly symptomatic, that is to say, is the effect of the inflammation. It rises and falls with the inflammatory orgasm."

Andral¹⁰ is not so clear in his statements regarding the nature of the malady, although he is inclined to think it, in most cases, a local inflammation; although he admits that in others the local lesion seemed to be the result of a general disease. In one of his cases six days intervened between the onset of the fever and the earliest appearance of the physical signs. "All the organs seemed to be simultaneously the seat of a strong excitement, without there being any real inflammation. . . . No organ was really inflamed, but all seemed on the verge of it." He says that this case illustrates the fact that inflammations may be "preceded by a general inflammatory state, of which the supervening inflammation is but in some degree the localization."

Chomel,¹¹ in his great work, has been too intent upon presenting the facts regarding the disease to deal in opinions as to its nature, although he evidently considers it a local inflammation.

That there are cases which lend an air of plausibility to the theory of the local origin and nature of the disease is not to be denied and may be illustrated by a great array of cases.

A young woman, engaged in a laborious occupation, perspired freely and, feeling overheated, sat in a cold draught of air. She promptly took a "cold in the head" and during the night was feverish and restless. The inflammation, beginning in the naso-pharynx, crept rapidly down the air-passages until the base of the left lung was reached, which became hepatized.¹²

Coming down to near our own time we find a gradual development of a general professional belief that the disease is a general one with a local manifestation in the lungs, although a few still hold to the doctrine that it is strictly a local inflammation, and yet a few others prefer to occupy a middle ground between these.

Copland¹³ defines pneumonic fever as an "inflammation and its consequences in the parenchyma of the lungs, often implicating the small bronchi and air-cells on the one hand, or the pleura on the other, or either, more particularly or exclusively."

Trousseau¹⁴ considers it a local affection; "The

local phenomena generally open the scene" and "the general symptoms continue along with the local phenomena."

Davis¹⁵ is perhaps the only author of wide reputation who yet holds pneumonic fever to be a local inflammation and who can perceive no evidence of a specific poison.¹⁶

Some authors¹⁷ have considered pneumonic fever as occupying a solitary position midway between the local inflammations and the essential fevers.¹⁸

Eberle,¹⁹ Merrell²⁰ and others think pneumonic fever a general disease of malarial origin.

Some authors have held that pneumonic fever is essentially a nervous affection.²¹

Fincham²² believes the disease to be an essential fever, caused by the elimination through the lungs of noxious materials²³ that should be thrown off by the skin, but which is prevented by cold.

Draper²⁴ regards the pulmonary inflammation as a conservative process by which a *materies morbi* is destroyed or eliminated from the body.

Flint²⁵ says: "The pulmonary affection is doubtless inflammatory, but it is the local manifestation or the anatomical characteristic of a febrile disease, sustaining to the latter a relation analogous to that which the affection of the solitary and agminated glands sustain to typhoid fever. If this doctrine be true the proper place for this disease in the nosology is among the essential fevers."

Green:²⁶ Pneumonic fever is "undoubtedly to be regarded as a general disease, of which the pulmonary inflammation is the prominent local lesion. The view that it is strictly a local affection of the lung to which the pyrexia and other symptoms are secondary is altogether untenable."

⁹ Mediate Auscultation, N. Y., 1830, p. 223.

¹⁰ Med. Clin., Phila., 1845, Vol. ii, p. 115 et p. 132.

¹¹ Pneumonie, Leipzig, 1841.

¹² Wells, Cincinnati Lancet and Clinic, June 10, 1882, p. 490. Similar cases have been observed by others; see Semple, Lancet, N. Y., 1888, Vol. i, p. 263.

¹³ Med. Dic. N. Y., 1888, Vol. ii, p. 878.

¹⁴ Clin. Med., Phila., 1873, Vol. i, p. 661.

¹⁵ Prac. Med., Chicago, 1884.

¹⁶ Similar views are held by Watson, Prac. Physic., Phila., 1845, p. 584; Elliotson, Prac. Med., Phila., 1843, p. 756; Drake, On Fevers, Phila., 1854; Swett, Dis. Chest, N. Y., 1856; La Roche, Pneumonia, Phila., 1854; Walshe, Dis. Lungs, Phila., 1860, p. 206; Gerhard, Dis. Chest, Phila., 1860, p. 203; Clark, Jour. Am. Med. Ass., Nov. 29, 1885, p. 615; Mott, Therap. Gaz., April, 1885, p. 234; Delafield, N. Y. Med. Rec., Nov. 28, 1885, p. 615; Lepine, Pneumonie, Wien, 1884, S. 103; Holloppau, Rev. des Sci. Méd., T. xii; Williams, N. Y. Med. Rec., May 5, 1888, p. 506.

¹⁷ Fox, op. cit., Sturges, Pneumonia, p. 2.

¹⁸ Rosenstein, Berliner Klin. Wochenschr., 1884, Nr. 18, S. 288, and Andrew, London Lancet, 1884, Vol. i, p. 788, think the proper place in the nosological scale for this disease is not yet determined. Satterthwaite, Phila. Med. News, Jan. 5, 1880, p. 2, says that it is "anatomically and clinically unlike any known disease."

¹⁹ N. O. Med., Phila., 1851.

²⁰ Fox, op. cit., Sturges, Pneumonia, p. 2.

²¹ Jackson, Lancet, 1887, Vol. ii, p. 1222; Heiss, Inaug. Diss., München, 1857, S. 17; Schuyler, N. Y. Med. Jour., Aug. 25, 1883, p. 295.

²² Lancet, N. Y., 1885, Vol. i, p. 524.

²³ Naumann, Ergebnisse u. Studien aus d. Med. Klin. zu Bonn, 1888, considers that the disease is preceded by an incubating stage in which the blood is surcharged with fibrin. Of this, however, we have no proof and it is in direct conflict with some of the analyses made by Zimmermann. Quoted by Fox, Reynolds's System of Medicine, Phila., 1880, Vol. ii, p. 197, and the opinion of Virchow.

²⁴ Bull. N. Y. Acad. Med., 1886.

²⁵ Prim. and Prac. Med., Phila., 1881.

²⁶ Quain's Dic. Med., N. Y., 1883, p. 876.

Juergensen,²⁷ as is well known, considers the malady a general one with a local manifestation and allied in nature to typhoid fever. Moore²⁸ says that "the day is seemingly not far distant when we shall speak of pneumonic fever in precisely the same way as we use the term enteric fever at present; that is to signify a zymotic or specific blood-disease, manifesting itself after the lapse of a certain time—the period of incubation—by physical phenomena, objective and subjective, connected in this instance with the lungs."

A great number of authors²⁹ have held similar views, and this is the one which I maintain to be correct.

In my opinion pneumonic fever is a general disease with a local manifestation in the lungs, and I believe this conclusion warranted by all the facts in the case, including the following of especial prominence: *α*. It prevails, to a greater extent than common, during certain seasons, in particular localities, amongst special classes of the population, and epidemically. *β*. It is infectious and, probably, under peculiar circumstances, contagious.³⁰ *γ*. It is not directly caused by traumatism or the ordinary causes of local diseases. *δ*. The general symptoms always precede the local ones by an appreciable, and often a considerable interval. *ε*. The disparity frequently observable between the constitutional symptoms and the extent and character of the local lesions. *ζ*. The character and enormous amount of exudation material and its rapid removal, without destruction of tissue or loss of function. *η*. The constant presence of peculiar microscopic parasites, which are, probably, the germs of the disease. *θ*. The unvarying course of the disease and its wonderfully uniform death-rate under varying and opposite modes of treatment.

The disproportion often existing between the

local lesions and the general symptoms must have been noticed by every observer of experience. Sometimes the local alterations are so slight as to almost or quite elude detection, and yet the constitutional symptoms may be of the most profound nature, or *vice versa*. A truly marvelous amount of local involvement may exist in the face of trivial symptoms, especially in the aged.³¹

In this connection, however, it should be borne in mind that there may be other changes in the lungs or other parts of the body, unknown as yet, of equal, or perhaps greater importance than those now familiar to us. "The essential features of a disease underlie, precede and stand in a dynamical relation to the anatomical lesions; determining, embracing, transcending and ruling them."

CHANGE OF TYPE.

It has been thought by some³² that the type of this malady—pneumonic fever—in common with that of some other acute diseases, has changed since the end of the first third of the present century, and that evolution in this respect is yet in progress; that formerly pulmonary inflammations were sthenic, whilst now they are asthenic.

This belief probably had its origin in witnessing the remarkable and radical changes in the prevalent modes of treatment which transpired from 1830 to 1860.

This change-of-type theory gave rise to an immense amount of very warm discussion, being ably defended by many eminent partisans³³ and as powerfully attacked by an array of equally illustrious foes.³⁴ The discussion is now obsolete, from the fact that the advocates of the doctrine never pretended to base their belief upon anything more stable than the memory of man and a freak of therapeutic fashion. Those whose experience extended over many years contended that they remembered the pulse and general appearance of the patient as indicating greater activity of the disease in the early years of the century than forty or fifty years later, and cited the abandonment of blood-letting as proof of the proposition. On the contrary, the opponents of this theory denied the possibility of memory to compare incidents and appearances a third or a half century apart, and that the changes in treatment were more apparent than real—depressing medicines replacing the lancet. Although it may be impossible to compare

²⁷ Berliner Klin. Wochenschr., 1884, Nr. 17; also in Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. V, S. 28 u. S. 143.

²⁸ Trans. Int. Med. Cong., 1887; N. Y. Med. Rec., Sept. 10, 1887, p. 314.

²⁹ Markham, Lancet, N. Y., 1868, Vol. i, p. 20; Parkes, Med. Times and Gaz., February 25, 1860; Williams, Lancet, N. Y., 1862, Vol. ii, p. 3; Laveran, Traité des Mal. et Epidém. des Armées, Paris, 1875, p. 40; Hermann, Lungenentzündung, München, 1880, S. 5; Pulvermacher, Berliner Diss., 1882, S. 7; Guddi, Jour. Am. Med. Assoc., July 5, 1884, p. 27; Sée, L'Union Méd. November 29, 1884; Robb, Jour. Am. Med. Assoc., November 28, 1885, p. 614; Loomis, Prac. Med., N. Y., 1884, also in Pepper's Syst. Med., Phila., 1885, Vol. iii, p. 307; Jane-way, Phila. Med. News, November 28, 1885, p. 605; Hart, Jour. Am. Med. Assoc., October 10, 1885, p. 305; Orton, Med. News, November 28, 1885, p. 605; Grifoulière, Gaz. Méd., 1833, p. 475; Geike, N. Y. Med. Rec., September 10, 1887, p. 294; Draper, Trans. N. Y. Acad. Med., 1865; Thompson, N. Y. Med. Rec., November 28, 1885, p. 614; Joly, Rev. Méd. de Toulouse, July 1880; Kinnicut, N. Y. Med. Rec., November 28, 1885, p. 615; Patten, Therap. Gaz., April 15, 1885, p. 234; Holt, N. Y. Med. Rec., February 21, 1885, p. 217; Col. Invest. Com. Rpt. in Brit. Med. Jour., December 1, 1885; Jacob, N. Y. Med. Rec., November 28, 1885, p. 615; Scott, N. Y. Med. Rec., September 10, 1887, p. 294; Heidenhain, Virchow's Arch., Bd. lxx, p. 294; Putzel, N. Y. Med. Rec., May 30, 1888, p. 608; Sanders, Trans. N. Y. Acad. Med., 1881; Didima, N. Y. Med. Rec., September 10, 1887, p. 294; Heiss, Inaug. Diss., München, 1857; Maragliano, La Riforma Medica, October 30, 1888; Fritsch, Inaug. Diss., Erlangen, 1878, S. 5; Virchow, Berliner klin. Wochenschr., February 6, 1888, S. 113; Smith, N. Y. Med. Rec., April 7, 1888, p. 308; Waller, Inaug. Diss., Erlangen, 1877; Graham, Canadian Practitioner, 1887; N. Y. Med. Rec., July 28, 1885, p. 65; Heidenhain, Virchow's Arch., Bd. lxx, Vanderpool, Trans. N. Y. State Med. Soc., 1865; Baginsky, Pneumonie u. Pleuritis, Würzburg, 1880, S. 123.

³⁰ My experiments in this direction have produced, thus far, only negative results, yet I expect to yet demonstrate the proposition.

³¹ Hourmann et Dechambre, Arch. Gen. de Méd., T. xii, 1836; Patton, Jour. Am. Med. Assoc., October 16, 1886; Loomis, Charcot's Dis. Old Age, N. Y., 1881.

³² Grisolet, Traité de la Pneumonie; Watson, Prac. Phys.; Semple, Lancet, N. Y., 1868, Vol. i, p. 263; Alison, Edinb. Med. and Surg. Jour., August, 1850; MacLachlan, Diseases of Advanced Life, London, 1864; Christison, Edinb. Med. and Surg. Jour., July, 1855; Caton, Lancet, 1884, vol. ii, p. 135; Loomis, Med. News, February 7, 1885, p. 161; Robinson, Phila. Med. News, January 5, 1889, p. 25.

³³ See references, ante.

³⁴ Bennett, Edinb. Med. and Surg. Jour., 1852, and Lond. Lancet, N. Y., 1864, Vol. i, p. 177; Markham, Lancet, N. Y., 1868, Vol. i, pp. 22, 126 and 201; Balfour, Edinb. Med. and Surg. Jour., 1858; Skoda, Allgem. Wiener med. Zeitung, 1863; Flint, Prac. Med., Phila., 1868; Fox, Reynolds' Syst. Med., Phila., 1886, Vol. ii, p. 243; Sturges, Nat. Hist. Pneumonia, London, 1870; Lebert, Berliner klin. Wochenschr., August 28, 1871.

the impressions of former years with those of the present time, yet there can be no difficulty in comparing the features of faces as shown in a portrait; the descriptions of cases as carefully noted; the degrees of heat as measured by the thermometer; the rate and force of the pulse as measured by the watch and the mercurial column, etc., for here we have something tangible and absolute from which to draw our conclusions. Now it so happens that the champions of the change-of-type theory have affirmed that the pulse of man has become weaker than in times past, and in the absence of authentic records to the contrary it would be difficult or impossible to successfully contradict the assertion. But here, where they have located one of their corner-stones, the ground is sandy. In 1730 Hales³⁵ recorded the force of the pulse as he measured it with the mercurial tube, and the experiments of recent observers³⁶ have given almost identical results. Again, if we compare the published clinical histories of a series of typical cases of pneumonic fever of the past and present, we find the same symptoms and appearances recorded in almost identical words, being presumptive evidence that they were alike in their essential nature and type.

I am of the opinion, and this view has been shared by others, that the real secret of the entire controversy is the recognition of certain forms of the disease, only possible by means of auscultation and percussion, which were not formerly considered examples of this malady. This explanation becomes more plausible when we recollect that it was with the advent of these aids to diagnosis that the advocates of evolution began to perceive the change. Previously it was only the marked cases—those with ardent fever, cough, oppression, pain and characteristic expectoration which were recognized, whilst those with latent or anomalous symptoms were excluded, and these were the very cases in which phlebotomy was either useless or prejudicial. During this period, also, the eloquent advocacy of the depressant plan of treatment by Laennec and his followers, and the "restorative" and stimulating plans of management by Bennett, Todd and the English school obtained very large followings, and assisted powerfully in effecting the change in favor in which bleeding was held.

It has also been supposed that mankind in general has deteriorated in physique during recent years, and that herein lays the reason for the alleged change in type of the disease. There can be no doubt that differing occupations, modes of living, dress and customs of the people, epidemic influences and the geological, climatic and meteorological conditions present may modify the type of the malady; but that this has occurred amongst

a population whose surroundings have remained stationary is scarcely probable.

From these facts I am of the opinion that there has been no actual change in the type of this disease, and that the pneumonic fever of to-day is that of our fathers, and of past ages, and will be that of future generations.

NAME.

Objects and conditions require names for their convenient and certain identification, and no one will deny the desirability, and even the necessity, of a scientific designation for pneumonic fever which will clearly, yet tersely, indicate its seat and nature.

Writers upon this malady have treated of it under various and diverse appellations. Thus the Greek words *peripneumonia* and *pneumonia*³⁷ have been in common use since the days of Hippocrates,³⁸ who employed the former title. In this he was followed by a great number of authors³⁹ down to the present time. This term is also given as a synonym by the compilers of the "*Nomenclature of Diseases*,"⁴⁰ issued by the Royal College of Physicians of London. Sauvages,⁴¹ desiring to be plainly understood, and wishing to distinguish the disease from some others with which it had been confounded, added the suffix *vera* to the name.

The *peripneumonia notha* of Sydenham,⁴² Boerhaave⁴³ and others, the *peripneumonia catarrhalis* of Huxham⁴⁴ and the *pleuritis humida* of Stoll⁴⁵ were probably not true pneumonic fever.⁴⁶

Pneumonia is the term in general use⁴⁷ and it is

³⁷ From *pneumon*, the lung.

³⁸ De Morb., Lib. ii, et De Acut. Affec., Lib. ii.

³⁹ Aretæus, De Caus. et Sig. Acut. Morb., Lib. ii, Cap. i; Theophrastus, quoted by Kinsman, Ohio Med. Record, June, 1880; Celsus, De Med., Lib. iv, Cap. vii; Caelius Aurelianus, Acut. Morb., Lib. ii, Cap. xxv; Alexander of Tralles, Opera, Lib. V, Cap. i; Aaron, quoted by Surianum in his edition of Rhazes, Lib. X, Cap. i; A. Galli, De Peripneumoniae, etc., Brix., 1565; Wyer, Obsv. Rara, Basil., 1567; Pansa, Peripneumoniae, Annab., 1614; Tossius a Serra, Peripneumoniae Cur. Rat., Venet., 1618; Tennent, Epidemics of Virginia, Edinb., 1742; Wendt, Obsv. de Pleurit. et Peripneum., Gottin., 1762; Belleni, Peripneumoniae, etc., Roma, 1775; Musgrave, Pleurisy and Peripneumonia, London, 1779; Romani, Peripneumoniae bilieuses, etc., Metz, 1779; Kreyssig, De Peripneumonia Nervos, Lipsæ, 1796; Guilbert, in Haller's Dis. ad Med., Lib. ii, Otto, Peripneum., etc., Lips., 1797; Fiorani, Saggio sopra la Peripneumonia, Pisa, 1788; Racine, Rech. sur la Pleurisie et Peripneumonia, Paris, 1803; Brown, Elements of Medicine, Portsmouth, 1803; Hoffmann, Sur la Peripneumoniae Typhoide, Strassburg, 1804; Maun, Medical Sketches, Dedham, 1816; Hosack, Am. Med. and Phil. Reg., Vol. iii, p. 448; Laennec, Traité de l'Auscultation Médiate, Paris, 1819; Aldis, Hospital Practice, London, 1838; Tomassini, Della Peripneumoniae, etc., Bologna, 1817; Bertram, Inaug. Diss., Halle, 1842.

⁴⁰ Washington edition, p. 38.

⁴¹ Nosol. Meth., Amstel., 1763, Lib. ii.

⁴² Works, London, 1788.

⁴³ Aphorisms, etc., Leyden.

⁴⁴ Med. Rat. Syst., London, 1752.

⁴⁵ Rat. Med., Vienn., 1777.

⁴⁶ See Wilson, On Fevers, N. Y., 1881, p. 10.

⁴⁷ Hirsch, Handb. d. Hist.-Geog. Path., Bd. ii, S. 20; Horn, Erkenntnis u. Heil. d. Pneumonie, Frankfurt, 1802; Cattelloupe, De la Pneumonie, etc., Paris, 1853; Eschmarch, Inaug. Diss., Kilia, 1821; Weller, Inaug. Diss., Zürich, 1854; Heiss, Inaug. Diss., München, 1857; Josephson, Inaug. Diss., Erlangen, 1854; Leyden, Volkman's Klin. Vortr., Nr. 114-115; Biernier, Lehre von Auswurf, Würzb., 1855; Baginsky, Pneumonie u. Pleuritis, Tüb., 1880; Pause, Die Lungengentzündung, Leipzig, 1861; Sée, L'Union méd., 1873; Niemeyer, Pneumonie, Stuttg., 1876; Willbrandt, Inaug. Diss., Rostock, 1862; Cibiel, Thèse de Paris, 1874; Bauer, Deutsche Arch. f. Klin. Med., 1874, S. 499; Flit, N. A. Med. Chir. Rev., 1861; Le Beuf, Pneumonie, etc., Paris, 1870; Walcher, Thèse de Strassb., 1868; Legrand, L'Union Méd., 1860; Bain, Am. Jour. Obst. Vol. xi, p. 333; Biderl, Thèse de Paris, 1868; Waller, Inaug. Diss., Erlangen, 1877; Williams, Cycl. Prac. Med., Vol. iii, p. 490; Cullen, Prac. Phys., Phila., 1792, p. 177;

³⁵ Statical Essays, London, 1738.

³⁶ Martin and Valentin in 1844; Ludwig in 1847; Vierordt in 1855; Keyte in 1884.

the one adopted by the compilers of the "Nomenclature of Diseases" above referred to. So long as the nature of the disease remained in doubt this was probably the best name that could have been adopted, inasmuch as it does not involve a pathological definition. *Acute* is prefixed to the principal term by some writers.⁴ Lobar pneumonia is preferred by some,⁵ while others employ *acute lobar pneumonia*,⁶ primitive lobar pneumonia,⁷ acute primitive diffuse pneumonia,⁸ sthenic pneumonia,⁹ etc.

Longrois, De la Pneumonie. Paris, 1782; Cappel, Pneumonie, etc. Gött., 1798; Bang, Acta Reg. Soc. Med. Vol. I. p. 288; Conradi Pleuritis u. Pneumonie, Mart., 1803; Wright, Med. Facts and Obsv., Vol. iii; Mahary, Med. Com., Vol. xviii, p. 134; Low, Am. Med. and Phil. Reg., Vol. iv, p. 20; Elliottson, Prac. Med., Phil., 1844, p. 731; Hudson, Dub. Jour. Med. Sci., Vol. vii; Seymour, Lancet, Dec., 1837, p. 432; Schmidtmann, Obsv. Med., T. i, p. 17; Hourmann et Dechambre, Arch. Gen. de Méd. T. xii, 1836; Ziemssen, Prager Vierteljahrsschr., 1858; Gerhard, Dis. Chest, Phila., 1860; Rilliet et Barthez, Mal. des Enf., Paris, 1837; LaRoche, Pneumonia Phila., 1854; Swett, Dis. Chest, N. Y., 1856; Grisolle, Traité de la Pneumonie, Paris, 1841; Tanner, Dis. Infancy, etc., Phila., 1871; Stewardson, Elliottson's Prac., Phila., 1844; Watson, Prac. Phys., Phila., 1845; Drake, On Fevers, Phila., 1854; Ziemssen, Pneumonia u. Pleuritis, Berlin, 1862; Bleuler, Inaug. Diss., Zürich, 1865; Kiesel-Huppert, Inaug. Diss., Leipzig, 1860; Heinze, Arch. d. Heilk., 1868, S. 49; Immermann und Haller, Arch. f. Klin. Med., Bd. v, S. 1; Bauer, Arch. f. Klin. Med., 1874, S. 490; Todd, Med. Times and Gaz., May 15, 1852, p. 483; Leichtenstern, Samml. Klin. Vorträge, No. 82; Topf, Berliner Diss., 1870; Fisser, Arch. f. Klin. Med., 1873, S. 391; Peacock, St. Thomas' Hosp. Rpts., 1875; Joffroy, Broncho-Pneumonie, etc., Paris, 1880; Chomel, Pneumonie, etc., Leipzig, 1841; Damasch, Thèse de Paris, 1867; Traube, Allg. Med. Centralzeitung, 1855; Squire, Practitioner, 1878; Fabre, Gaz. des Hôp., 1878, p. 1171; Gazin, Thèse de Paris, 1874; Künze, Zeitsch. f. Prakt. Med., 1874, No. 17; Gaucher, Prog. Méd., 1878, p. 426; Lapiere, La France Méd., 1er Mai, 1878; Gerhard, Thürig. Correspond. Bl., 1875; Garbani, Inaug. Diss., Würzb., 1875; Teissier, Jour. Méd. de Lyon, 1848; Delieux, Bull. de Thérap., 1863; Dreschfeld, Lancet, 1876, Vol. i; Veraguth, Virchow's Arch., Bd. lxxvii; Schwarz, Inaug. Diss., Erlangen, 1880; Torio, Thèse de Paris, 1876; Grimshaw and Moore, Dub. Jour. Med. Sci., Aug., 1875; Putegnat, Jour. de Méd. de Brux., 1866; Fossagier, L'Union Méd., 1887; Diltmar, Gaz. Méd. de Strass., 1865; Wunderlich, Arch. der Heilk., 1862; Robert, L'Union Méd., 1864 et 1878; Landrieux, Gaz. des Hôp., 1875; Reigler, Wiener Med. Wochenschr., 1858; Monti, Gaz. Méd. Ital. Lombarda, 1863; Thomas, Memorabilien, 1874, No. 9; Leube, Berliner klin. Wochenschr., 1877, S. 299; Monthus, Thèse de Paris, 1863; Gress, Gaz. Hebdom., 1856; Bruzelius, quoted by Lépine, Die Acute Lobäre Pneumonie, Wien, 1855; Lecointe, Gaz. Hebdom., 1856; Roche, Gaz. Méd. de Strass., 1858; Armaingaud, Pneumonie, etc., Bordeaux, 1872; Corrigan, Dublin Hosp. Gaz., 1857; Bonnemaison, L'Union Méd., 1875, Nos. 77-106; Hall, Boston Med. and Surg. Jour., May, 1870; Arnold, Phila. Med. and Surg. Rep., Jan., 1867; Morenre, Gaz. des Hôp., 1854; Fischel, Prager Med. Wochenschr., 1877; Lagout, L'Union Méd., 26 Oct., 1878; Charcot, Thèse d'Aggrég. Paris, 1860; Leyden, Berliner Klin. Wochenschr., 1870; Lewissou, Jahrb. f. Kinderk., 1873; Viry, L'Union Méd., 1879, T. i, p. 315; Vogt, Norsk. Mag. f. Læger, 1877; Barth et Poulin, Gaz. Hebdom., 1870; Surugue, Thèse de Paris, 1875; Villard, Recueil de mém. M., 1876; Lépine, Thèse de Paris, 1870; Delieux, Gaz. Méd., 1857, No. 39; Mecario, L'Union Méd., 1859; Seidel, Deutsche Klin., 1862; Drasche, Canstatt's Jahreshb., Bd. iii, S. 205; Moore, Brit. Med. Jour., 1868, Vol. i, p. 10; Emery, Soc. Anat., 1875; Duval, Gaz. des Hôp., 1856; Küssner, Berl. Klin. Wochenschr., 1875, No. 34; Landrieux, Gaz. des Hôp., 1860; Codet, Gaz. Méd., 1875, No. 34; Skoda, Allg. Wiener Med. Zeit., 1863; Cohn, Zeitsch. f. Klin. Med. Bd. vi; Chausseaux, Thèse de Paris, 1877; Franque, Inaug. Diss., Würzb., 1855; Kicu, Thèse de Paris, 1874; Bamberger, Wiener Med. Wochenschr., 1857; Borland, Boston City Hosp. Rpts., 1870; Poncet, Thèse de Paris, 1859; Voss, Nor. Mag. f. Læger, Vol. vii, p. 529; Hermann, Allg. Med. Zeit., Nos. 46-52, 1875; Delafeld, N. Y. Med. Rec., Aug., 1875; Ettingen, Schmidt's Jahrb., 1882; Forget, Bull. de Thérap., 1855 et 1856; Mitchell, Gaz. Méd., 1859, p. 128; Lawson, Am. Jour. Med. Sci., 1860; Morin, Thèse de Strass.; Waters, Brit. Med. Jour., 1860, Vol. ii, p. 508; Kapp, Behandl. d. Pneumonie, Bonn, 1872; Funck, Inaug. Diss., Griefswald, 1868; Zuckermann, Behandl. d. Pneumonie, Berlin, 1872; Butry, Epidem. Pneumonie, Leipzig, 1880; Zimmermann, Path. u. Phys. d. Pneumonie, Prag, 1852; Epting, Inaug. Diss., Tiib., 1847; Wilberg, Nephritis bei Pneumonie, Berlin, 1885; Thieme, Intermit. Pneumonie, Jena, 1865; Schmitt, Inaug. Diss., Würzburg, 1884; Schiel, Statis. d. Pneumonie, Kiel, 1883; Rietz, Inaug. Diss., Jena, 1888; Mosler, Biliose Pneumonie, Lips., 1873; Leubuscher, Inaug. Diss., Berlin, 1855; Kruger-Hansen, Verfahren bei Pneumonie, Rostock, 1841; Draheim, Inaug. Diss., Berlin, 1867; Koettwitz, Pneumonie, Halle, 1882; Coleman, Inaug. Diss., Würzb., 1880; Dörrenberg, Inaug. Diss., Berlin, 1886.

⁴ Raven, Acute Pneumonia, London, 1883; Wittich, Die Acute Pneumonie, Erlangen, 1850; Copeland, Med. Dic., N. Y., 1855, Vol. ii, p. 878; Sturges, Nat. Hist. Pneumonia, London, 1876; Fox, Reynolds's Syst. Med., Phila., 1880, Vol. ii, p. 153; Green, Quain's Dic. Med., N. Y., 1883, p. 874; Loomis, Pepper's Syst. Med., Phila., 1885,

The term *croupous pneumonia* was introduced by Rokitansky⁵¹ and derives its significance from a fancied resemblance of the intra-alveolar exudate to that of laryngeal croup. The name has been widely adopted in Germany and elsewhere. Various modifying words are added so as to render the term *acute croupous pneumonia*,⁵² *croupous lobar pneumonia*,⁵³ etc.

Pneumonitis, a name implying the inflammatory nature of the disease is the term used by many.⁵⁴ Pringle⁵⁵ treats of the malady under the caption of "*pleurisy and inflammation of the lungs*," and many German writers employ simply the term *Lungenentzündung*⁵⁶ with or without the prefix *lobäre*.

Good⁵⁷ uses the name "*empresma pneumonitis*." Trousseau⁵⁸ requires several words to express his meaning, as "*pneumonia, peripneumonia vera, simple legitimate pneumonia*." Schliessinger⁵⁹ employs "*genuine fibrinous pneumonia*." The terse "*pneumonia*" of Walshe⁶⁰ in 1844 has become his "*acute asthenic exudative pneumonia*" of 1871. Valsalva and Morgagni,⁶¹ impressed with the importance of the accompanying pleuritis, employed the term *pleuro-pneumonia* and their example has been followed by others.⁶² *Pulmonia* was the term used by Amar.⁶³

Vol. iii, p. 307; Walshe, Dis. Lungs, Phila., 1859; Wendt, N. Y. Med. Rec., Oct. 18, 1884, p. 430.

⁴⁹ Holt, N. Y. Med. Rec., Feb. 14, 1885, p. 174; Doubleday, N. Y. Med. Rec., Mar. 28, 1885, p. 343; Kinnicut, N. Y. Med. Rec., Oct. 11, 1884, p. 309; Satterthwaite, Phila. Med. News, Jan. 5, 1889, p. 1.

⁵⁰ Schuyler, N. Y. Med. Jour., Aug. 25, 1885, p. 208; Lépine, Die Acute lobäre Pneumonie, Wien, 1883; Delafeld, N. Y. Med. Rec., April 12, 1884, p. 398.

⁵¹ Barthez, See Cincinnati Lancet and Obsv., 1864, p. 668.

⁵² Lebert, Berliner Klin. Wochenschr., Aug. 28, 1871.

⁵³ Fuller, Diseases of the Lungs, Phila., 1867.

⁵⁴ Path. Anat., Phila., 1855, Vol. iv; See Fox, Reynolds's Syst. Med., Phila., 1880, Vol. ii, p. 153.

⁵⁵ Kindfleisch, Path. Histol., Phila., 1872; Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v; Bayer, Arch. f. Heilk., Bd. viii, 1867, S. 540; Kocher, Croupösen Pneumonie, Würzb., 1866; Thomas, Arch. f. Heilk., Bd. v, S. 30; Schube, Arch. f. Heilk., Bd. xvi, S. 185; Gender, Croupösen Pneumonie, Nürnberg, 1886; Waller, Croupösen Pneumonie, Berlin, 1881; Mays, Therap. Gaz., April 15, 1885, p. 217; Maurer, Arch. f. Klin. Med., Bd. xiv; Schneider, Inaug. Diss., Erlangen, 1870; Fritsch, Inaug. Diss., Erlangen, 1878; Solberg, Inaug. Diss., München, 1883; Bachfeld, Inaug. Diss., Stuttgart, 1885; Brey-Esser, Inaug. Diss., Griefswald, 1869; Speck, Inaug. Diss., Marb., 1870; Schapira, Inaug. Diss., Würzb., 1877; Sidlo, Behandl. d. Croup. Pneum., Leipzig, 1875; Scheffer, Inaug. Diss., Halle, 1888; Buttermann, Inaug. Diss., Griefswald, 1882; Sampter, Inaug. Diss., Breslau, 1881; Maurer, Inaug. Diss., Leipzig, 1884; Ebhardt, Inaug. Diss., Kiel, 1885.

⁵⁶ Fisser, Deutsche Arch. f. Klin. Med., 1873.

⁵⁷ Wintrich, Croupösen lobäre Pneumonie, Erlangen, 1843.

⁵⁸ Swediaur, quoted by Copeland, Med. Dic., N. Y., 1855, Vol. ii, p. 878; Hildebrandt, Path. Gen., Erlangen, 1795; Giovanni, Gaz. Med. Ital. Lombarda, 1872; Flint, Prac. Med., Phila., 1868, p. 163.

⁵⁹ Diseases of the Army, London, 1768, p. 130.

⁶⁰ Buhl, Lungenentzündung, etc., München, 1872; Huss, Lungenentzündung, u. s. w., Leipzig, 1861; Skoda, Allg. Wiener Med. Zeitung, 1863; Pause, Lungenentzündung, Leipzig, 1861; Fritsch, Erlangen Diss., 1878; Friedlander, Lungenentzünd., Berlin, 1873; Dinstl, Canstatt's Jahreshb., 1862, Bd. iii, S. 219; Dietl, Lungenentzündung, Wien, 1840; Folkmann, Lungenentzündung, Erlangen, 1847; Reodere, Oestr. Med. Wochenschr., 1843; Hannover, Deutsche Klinik, 1863; Seitz, Behandlung d. Lungenentzündung, Marb., 1862; Scharf, Inaug. Diss., Berlin, 1837; Richter, Path. u. Therap., Berlin, 1833; Herr, Epidem. Lungenentzündung, Wetze, O. J.; Baumgartner, Behandl. d. Lungenentzündung, Stuttg., 1850.

⁶¹ Study of Medicine, London.

⁶² Clin. Med. Phila., 1873, Vol. i, p. 660.

⁶³ Inaug. Diss., Berlin, 1873.

⁶⁴ Dis. Lungs, First edition, London, 1844. Last ed., 1871.

⁶⁵ De Sed. et Caus. Morb. Hom.

⁶⁶ Bouillet, Pleuronomique Epidem., Besançon, 1750; Andral, Clin. Med., Phila., 1843, Vol. ii, p. 115; Mering, Hist. Cholera, etc., Leipzig, 1830; Laveran, Gaz. Hebdom., 1865, p. 545; Vasquez, Thèse de Paris, 1878; Baronius, De Pleuropneumonia, Forolivii, 1638; Vorster, Pleuropneumonia Epidem., Basil., 1680; Brunner, Pleuropneumon. Epid., Heidelb., 1689.

⁶⁷ Pulmonia, etc., Madrid, 1777.

Huxham⁶⁸ and Hoffmann⁶⁹ were probably in advance of their time when they employed the term *febris pneumonica*, which although in common use by the laity in the popular designation, "*lung fever*," has had only a limited currency in the ranks of the medical profession.⁷⁰ *Pleuro-pneumonic fever* would be more accurately descriptive,⁷¹ but the name is open to the objection of great length and hybridity.⁷²

Believing, as I do, that the disease under consideration is an essential fever—a general malady—in which the principal and most constant morbid anatomical changes are located in the lungs,⁷³ I have adopted for its designation the term *pneumonic fever*.⁷⁴

LAPAROTOMY.

FOR THE RELIEF OF RECURRING ATTACKS OF INTESTINAL OBSTRUCTION DUE TO PERITONEAL BANDS AND ADHESIONS. RECOVERY WITH COMPLETE DISAPPEARANCE OF SYMPTOMS.

BY JOHN G. PERRY, M.D.,
OF NEW YORK CITY.

The following history is taken from the patient's written account :

"On January 1, 1886, after much mental anxiety and responsibility, I succumbed to an attack of nervous prostration, the primary evidences of which were paroxysms of gasping and rapid respiration as if from hard running. April 7, of the same year, left home for New York, and soon after reaching there was seized with acute pain in the bowels followed by purging. Similar attacks recurred through the following summer at intervals of about ten days or two weeks, while loss of nerve power was fast becoming more marked. Returned to my home April 12, and immediately afterwards was ill with dysentery. After a month recovered sufficiently to move about the house, but before recovery was complete broke down again with peritonitis, and from this attack was confined to my bed three months, having two relapses; but through all the following months up to February, 1888, had attacks at intervals of three or four weeks of severe intestinal pain attended with nausea vomiting and collapse."

On February 24, 1888, the patient came to

New York from her home in the West, and placed herself under my care; and as soon after as possible, I made an examination with the following results: Low down in the abdomen, on the right side, and just above Poupart's ligament, as if arising from it was a mass about the size of a hen's egg, firm, unyielding and exquisitely sensitive to the touch.

The uterus was in place, the Fallopian tube free and without apparent disease, and the ovary—well (?) I could not distinguish it. The history certainly did not indicate ovarian involvement. There was some dysmenorrhœa at each menstrual epoch, but it was not ovarian in character, while menstruation continued six and even seven days. The mass seemed beyond the place occupied by the ovary and by conjoined pressure was less sensitive than when pressed from the outside only. It was firmer, and more securely fixed than an ovary would be, and furthermore, the paroxysms of pain did not usually arise from the point of tumefaction, but higher in the abdomen and about two inches from the right of the umbilicus, from whence it would almost immediately depart and fix itself at the epigastrium, to be followed by vomiting and cramps of the stomach.

Later on I inflated the bowel with oxygen gas, with the effect of dilating the ascending colon just above the cæcum, where it seemed to be weak and yielding without effecting its passage into the ileum, even with the aid of manipulation within and without. Following this I sent 2 grains of calomel into the system as a detective, with the result of securing two moderate passages mixed with mucus, after which I again essayed inflation with oxygen with the satisfaction of feeling some of it pass beyond the obstruction.

Being now satisfied that I had only partial and not complete obstruction of the bowel with fecal matter, and no evidence of abscess or serious inflammation, I began treatment for the removal of the mass and as follows: Each day the patient was to receive a hot abdominal pack for the purpose of relieving tenderness, inhibitory spasm and pain, and to stimulate intestinal digestion. Every fourth night 2 grains of calomel were to be given, and for diet hot milk alternated with Rudisch beef peptones, while as soon as the tenderness had subsided sufficiently she was to receive massage over the lower abdomen.

On the twelfth day when all seemed to be doing well, the patient gaining strength and the mass subsiding, she was suddenly seized with acute pain of the epigastrium, accompanied with nausea, and extreme hyperæsthesia over the whole surface of the abdomen. A promise was given that if the pain was not conquered within half an hour a hypodermic of morphia should be given, so the hot pack was applied and ordered to be continued until the pain subsided. Relief came soon, so that from this time on the habit of

⁶⁸ Fevers, London, 1739.

⁶⁹ Opera Physio-Med., Geneva, 1740.

⁷⁰ Masson, Thèse de Paris, 1876; Cohnheim, Lec. de Chir. Méd., 1877, p. 171; Bernheim, Rev. Méd. de l'Est, 1877; Moore, N. Y. Med. Rec., Sept. 10, 1887, p. 314.

⁷¹ Guirac, Bordeaux Méd., 1873, No. 48, employs the term *lobar pneumonic fever*.

⁷² Schuyler, N. Y. Med. Jour., Sept. 8, 1883, p. 257, in mistakenly objecting to the name "*pneumonic fever*," says: "What purpose is served by giving this fever the prominence which attaches to the term '*essential*,' and according to it a special name? By the designation of '*febris pneumonica*' is any quality of the malady elucidated, which renders the important indications for treatment more clear, simple, or emphatic? On the other hand, does not such prominence act injuriously by withdrawing attention from indications of vastly more importance than those which arise in connection with the pyrexia?"

⁷³ See ante.

⁷⁴ Lat., *febris pneumonica*. Fr., *fièvre pneumonique*. Ger., *pneumonisches fieber*.

morphia was broken, and no further demand for it was ever made.

Similar attacks occurring twice afterwards, and within a few days of one another, and recalling the fact that when the pain began below it quickly transferred itself to the region of the stomach, I began to suspect dilatation of this organ, and at once introduced the flexible stomach tube with the result of washing away a large amount of undigested food, mucus and gas, and giving immediate relief to the patient.

This lavage of the stomach was now ordered for each morning before the introduction of food, with massage in the evening before the pack, and 2 grains of calomel every fifth night.

No paroxysm of pain occurred again. One or more movements were secured from the bowels daily. The patient's strength also improved daily, but it was April 15, before the whole of the faecal mass was dislodged. The patient was now ordered to resume her usual diet, and to begin daily exercise out-of-doors.

All went well for a while, but after the walks had become extended to many blocks the patient began again to complain of discomfort and constipation, which increasing daily, forced me at length to make an exploratory examination, under which I found another mass of faecal matter accumulated at the same point as before, and filling up three or four inches above Poupart's ligament.

That adhesions existed constricting the gut at this point there could be no doubt; certainly a second accumulation coming so soon after the first would not be fortuitous as I thought the first might be. All the possibilities and advantages of an operation now took possession of me; yet I hesitated, deeming it possible that if adhesions did exist and could be discovered, they might be overcome by distention and manipulation; so the patient was put to bed, and all the processes formerly established set in motion again.

The disintegration was slow and tedious, but the 10th of May it was wholly dispelled, and by the following method: I attempted either to loosen the adhesions or to stretch them sufficiently to free the bowels from their embrace, though as yet I had failed to portray any to sense of touch. Passing the index finger of the left hand along the right side of the vagina, and raising the uterus at its junction with the broad ligament as high as possible, I forced the fingers of my right hand deep into the groin from the outside, until by drawing them upward and backward I could strain every tissue that lay within the grasp of my fingers, varying the force and direction as my fancy or imagination dictated. After the manipulations the hot pack was applied to overcome the bruising and sensibility they created.

One fact was made prominent: that while this

process continued no accumulation occurred, nor were laxatives rendered necessary, while later on the patient was able to resume her walks. Summer and hot weather now coming on, the patient was ordered to the seashore, where under the guidance of a physician, surf-bathing and a rigid dietary, she could demonstrate what had been accomplished.

Timidity and apprehension restrained her from venturing upon either solid food or exercise until well on in July, when, finding encouragement, she undertook a long walk. At once the pain returned, with nausea, headache and slight fever; and these not yielding to rest, the doctor was summoned. He fearing the presence of peritonitis, ordered morphia and hot applications. Being unwilling to resort to this method of treatment again, she returned to the hot packs, low diet, laxatives, and absolute rest, with the result of soon finding comfort and relief from pain with, later, ability to move about her room and on to the piazza where, through the rest of the summer she found her pleasure, with much gain in strength and weight.

Soon after my return in October, she came back to the city, and on being told that an accumulation from obstruction again existed, and that it would be only a waste of time to continue longer with palliative measures, she at once consented to an operation.

At this juncture I asked Professor F. S. Dennis, whose skill as an operator and experience in abdominal surgery, entitled him in the highest degree to judge, if he could approve my diagnosis and contemplated operation. He took no exception to either, but heartily endorsed the latter. For this and his valuable assistance at the operation I now wish to offer my recognition and thanks. To Drs. Meyers, of this city and F. F. Smith, of St. Augustine, Fla., I am also indebted for valuable services rendered at the operation.

After the necessary precautions had been taken to render the operation aseptic, it was commenced on the morning of November 1, by an abdominal incision (lateral) being made to run from about an inch above and two inches from the crest of the ilium (towards the median line) down towards the inguinal region, and within an inch of Poupart's ligament, through the parietal muscles and to the peritoneum. A small amount of faecal matter was left as a guide at the point of obstruction, and the incision passed directly over its centre. Seizing now the peritoneum with a pair of forceps, and raising it from the intestines, I divided it the whole length of the wound. At once there was a gurgling sound, and the imprisoned mass of faecal matter moved on quickly and disappeared. The bridge or principal adhesion had evidently been severed along with the peritoneum, but yet on the outer surface of the cæcum, which was now plainly in

view, no evidences of inflammation recent or remote presented themselves.

Passing now the index finger between the folds of the intestines and behind the cæcum, I found a strong band, which, as it passed behind and towards the base of the cæcum, divided, one portion running inwards to be lost in the pelvis, the other outward and downward, losing itself in the pelvic fascia beneath the pubis. One extremity being cut between two catgut ligatures, and the other torn carefully from its adhesion, nothing now remained to prevent the whole of the cæcum from being passed in review along the palmar surface of the index finger.

Moved with great curiosity, I now thought of searching for the appendix, which, as yet, had not engaged our attention; but finding the cellular connections between the coils of the intestines undisturbed and without evidence of inflammation having disturbed its functions, I sponged and closed the wound, bringing the peritoneum together first with a running stitch of catgut, and then the parietes with silver wire running beneath the peritoneum, passed first according to the method of Dr. Jas. B. Hunter.

The usual outward dressings and bandages were now applied, as after laparotomy, and the patient put to bed. No evil symptoms occurred from this time on, while the highest point reached by the thermometer was $99\frac{3}{8}^{\circ}$.

There being no pain, sulfonal was sufficient to keep the patient quiet and secure sleep at night. One month was allowed as a test of the cure, and no obstruction occurring within this time, the patient was discharged, her appetite being good and bowels acting daily.

February, 1889. The patient has since been heard from, and is doing well.

MEDICAL PROGRESS.

A CASE OF DENTAL FISTULA OPENING ON THE MAMMARY GLAND.—The following case, reported by DR. NICOLAI, of Stuttgart, Germany, in the *Deutsche Monatsschrift für Zahnheilkunde* for December, 1888, illustrates forcibly the importance attaching to the necessity of placing the mouth at all hazards in a perfectly physiological condition.

Dr. Nicolai says: A lady, 32 years of age, who has not had her teeth examined for four years, presented herself to me to have her teeth placed in good condition. This necessitated cleaning the teeth, the removal of salivary calculus, and the introduction of eleven gold, six amalgam and two cement fillings.

On the completion of these operations, the mouth was in a normal healthy condition, with the exception of the lower left first molar, of which nothing

but the roots were left; these were broken, and underneath the margin of the gum. They were filled with the ichorous products of decomposition, and their margins were overhung with the inflamed, tumefied gum. This condition of affairs has prevented the lady from masticating her food on this side for some time, and as a natural result the right side alone was used. After having performed all the necessary operations in her mouth, I endeavored, by naming all the disadvantages arising from the presence of the roots, to convince her of the necessity of removing them. I told her that the left side of her mouth was completely useless, that these roots have caused diseases of the two adjoining teeth of the same jaw, and of the articulating tooth of the upper jaw; that a tendency to the recurrence of caries still existed, that inflammation of the gums would always exist and that the breath will be always tainted. All these efforts were futile and were met with the single statement that, while the roots were not painful, she would not submit to their removal. To diminish the jeopardy of my work to the minimum, I concluded to place the roots in as good a condition as I could and, if possible, make them serviceable for mastication on that side of her mouth. Removing the tumefied, spongy gums, and all products of decomposition, and by means of the bur the ichorous contents of the roots, I adopted the most radical means of disinfection known to science, capped the roots with red gutta-percha, and dismissed the patient, satisfied in my belief of having aided her to the best of my ability.

The following day the patient's husband came to my office, hastily requesting a few moments' interview. "What have you put in the lower tooth of my wife? Was it iodoform, carbolic acid, creosote, or some such substance having a marked odor?" On being answered in the affirmative, he merely thanked me, stating that the family physician would call on me. In astonishment I awaited the latter's call, who stated to me that the lady has had a slight discharge of pus for the last eight months, at a location about 1 cm. above the left nipple of the breast. There was no apparent disease of the breast. At first cold poultices were applied, these were succeeded by warm ones; later, a probe was introduced following the channel upward, and this was followed by the injection of astringent remedies, and finally by cauterization of the wound. The discharge, however, continues. To-day, the patient claims that she discovers the odor of the medicines used in her tooth yesterday, in the discharge from the breast. He wished to know whether it was possible that the lady is in error, or whether it is possible that there is some connection between the breast wound and the roots.

I have had a case of pus inundation where the discharge took place in the neighborhood of the shoulder. Many cases have been reported in our

literature, among others by Carabelli, but no case of infiltration to the mammary gland. The connection, if any exists, can be ascertained with certainty. If it is true that the medicaments used have passed from the roots into the wound on the breast, a harmless coloring would also do so. A cochineal solution was injected into the root-canals, and the following day the discharge from the breast was colored, thus positively establishing the connection. I concluded to extract the roots and thus, by removing the primary cause, cure the ailment. The examination made after the extraction of the roots proved that the pus had passed through the basilar portion of the lower maxilla, followed the border of the sternocleidomastoid muscle, perforating the strong fascia of the platysma myoides, it followed the pectoral muscle and infiltrated the tissues of the mammary gland, discharging into the external world according to the laws of gravitation. Phenol water and boracic acid were afterward used. In about twelve days the wound on the breast was healed. — *The Dental Review*, February, 1889.

ANTIPYRIN IN THE FIRST STAGES OF LABOR. —We have already alluded to the fact that antipyrin is claimed during the first stages of labor to render the pains less severe, while at the same time not interfering with the progress of labor. Although these claims have not been universally admitted, and we have referred to papers in which the claim is made that it is entirely negative in its action in this respect, some results published by J. O. VAN WINKLE in the *New York Medical Journal*, for January 5, 1889, go far to substantiate them. He refers to several cases in which antipyrin was employed. The first dose was given when the os was about one third dilated, except in cases where the pains were very severe from the outset, when it was ordered earlier. Antipyrin, gr. xv, and spt. ammonia, xxx drops, were administered every two hours during the first stage for three doses. The temperature and pulse were noted at the time the first dose was administered, and every hour thereafter until dilatation was complete. In almost every instance the patient said she felt greatly relieved, and this was evident from her behavior. In some cases the patient would fall asleep for an hour or so after the first or second dose. Incidentally it was noticed that the temperature fell from half a degree to a degree and a half Fahrenheit. The pulse became somewhat more frequent and the respiration slightly increased. Occasionally, if the pulse was rather rapid before administering the drug, it decreased in frequency. From statistics as to the duration of labor in cases where it was not employed, and where it was employed, it would seem that antipyrin does not increase the duration of labor, but on the contrary, tends to lessen the first stage on an average

of about half an hour, while the second stage remains practically the same, and in no case was there any injury done the mother or child. The author claims that antipyrin very materially lessens the severity of the pains during the first stage of labor, and has never given rise to any alarming symptoms, this immunity doubtless being due to the fact that in its administration it was always combined with a stimulant. — *Therapeutic Gazette*, Feb. 15, 1889.

SOME OF THE ABUSES OF ETHERIZATION. —At the conclusion of a paper on this subject DR. GEORGE F. SHRADY says:

In order to avoid many of the abuses of anesthesia, to which we have referred, we may offer the following conclusions, upon which a fuller discussion may profitably turn:

1. In commencing the administration of ether the gradual method is to be preferred.
2. Its employment allows the lungs to empty themselves of residual air, prevents coughing and struggling, and places the organs in the best possible condition to receive and rapidly utilize the ether vapor.
3. After the stage of primary anæsthesia is reached, the more pure ether vapor the patient breathes the better.
4. The shorter the time of anæsthesia, and the smaller the amount of ether used, the less likely are the unpleasant sequelæ to occur.
5. The more evenly it is administered the less shock to the patient.
6. Anæsthesia should be entrusted to experienced administrators only.
7. Many of the fashionable efforts to resuscitate patients are not only useless but harmful.
8. The minimum amount of force should be employed to restrain the muscular movements of the patient.
9. Mixed narcosis is often advisable for prolonged operations.
10. The utility of the galvanic battery, in threatened death, is yet to be proven.
11. The most trustworthy means of resuscitating desperate cases are artificial respiration, hypodermic stimulation, inhalation of nitrite of amyl, and inversion of the body. — *Medical Record*, February 23, 1889.

CREOLIN IN OPHTHALMOLOGY. —DR. O. PURTSCHER gives the results obtained with creolin in the treatment of diseases of the eye. A 1 per cent. solution dropped on the conjunctiva of a eye produces a sensation of severe burning, which results in the eyelids being closely pressed together. This, however, is only momentary; the lids are soon reopened and large tears flow forth. After three or four minutes the irritation will have subsided entirely, save for a slight conjunctival irritation, which also soon passes off. Hence the

author recommends the use of cocaine before the application of creolin.

1. In simple conjunctivitis the results, as a rule, were good, especially in congestive catarrh, and in those forms complicated with inflammation of the corneal margin.

2. In conjunctivitis phlyctenulosa, the combined results of creolin with cocaine were admirable, especially in photophobia and serofulous blepharospasmus.

3. Success was most marked in the papillary form of trachoma, the author having never seen such marked resolution of the papillæ from caustic treatment, as from that by creolin.

4. In bleorrhœa of the lachrymal passages, improvement was observed in many cases.

5. In all forms of keratitis with ulceration the deep ulcers healed rapidly; also ulcers with small hypopyum stood the creolin treatment admirably.

6. In parenchymatous keratitis the vascular growth was speedily arrested.

The author concludes that creolin is a powerful and valuable antiseptic, and at times to be preferred to the sublimate. It possesses another advantage in being non-poisonous, a fact that has lately been shown by Eisenberg.—*Centralbl. f. d. ges. Therapie*, January, 1889.

POISONING BY HYDRATE OF AMYLENE.—DR. DIETZ (*Deutsche med. Zeitg.*, 1888, No. 24) reports the following: A mixture containing hydrate of amylene was prepared for occasional administration to the patients of a clinic in Leipzig in order to procure sleep. Directions were given to shake the bottle before pouring out the dose. On one occasion the bottle was allowed to stand a few moments after having been shaken, and then four separate doses for four patients were administered. Amylene hydrate being of light specific gravity floats on water, the result being that the dose under these conditions was greatly increased. The symptoms produced in all four of the patients who took the drug were those of acute poisoning by alcohol—prolonged sleep, paralysis of the extremities, abolition of tactile sensibility and of the reflexes, dilatation of the pupils with feeble reaction to light, superficial, irregular respiration, and small, slow pulse. Hypodermatic injections of camphor was the treatment adopted, all the four patients recovering.—*Medical Chronicle*, January, 1889.

MYRTOL, the new disinfectant for the air-passages, is best given, says PROFESSOR EICHHORST, in gelatin capsules, each containing 0.15 gram of myrtol. The drug has a powerful and penetrating odor, which can be detected in the breath for two days after one capsule has been taken. To obtain the deodorizing and disinfectant effects in cases of putrid bronchitis and pulmonary gangrene, 2 or 3 capsules should be

taken every two hours, though the taking of so many as three capsules may cause loss of appetite. The effect is often wonderfully rapid, the bad odor disappearing from the sputa, and the sputa diminishing rapidly. Myrtol has no effect on tubercle bacilli.—*Therapeutische Monatshefte*, January, 1889.

CAFFEINE IN PULMONARY DISEASE.—TE GEMPT claims that the use of the double salts of caffeine is indicated in the course of acute fibrinous pneumonia when the heart begins to be enfeebled, the blood-pressure of the aortic system lowered, or when the pulse becomes unusually frequent or irregular. The use of the drug should be begun before symptoms of collapse appear. It should be used at the beginning of the disease in debilitated persons, drinkers, old people, and in subjects of cardiac disease. When used at the proper time and in sufficient doses it diminishes the frequency of the pulse and of the respiration, and increases arterial pressure, lowers temperature, and produces a sensation of well-being. It may, if necessary, be given by hypodermatic injections. After the period of apyrexia it is unnecessary to continue its administration. In atelectasis, hypostasis, emphysema, and pulmonary asthma, the double salts of caffeine are indicated as in heart diseases.—*Revue des Sciences Médicales*, January, 1889.

DETECTION OF ACETON AND DIACETIC ACID IN THE URINE.—To a portion of the urine in a test-tube add a few drops of a concentrated solution of sodium nitro-prusside, and make the mixture alkaline by the addition of liquor potassæ. The resultant red color fades in a short time, and when there is no trace of it left add a small quantity of acetic acid. If aceton exists in the urine, a marked violet color will result. Diacetic acid (ethylic ether) in urine, gives with perchloride of iron, a deep red reaction, which disappears on boiling. The urine of persons who have taken thallin, antipyrin, carbolic acid, or salicylic acid gives the same reaction so far as color is concerned, but the latter does not disappear on ebullition. If the urine is boiled before the perchloride is added, the reaction, in case diacetic acid be present, does not occur. The search for diacetic acid must be made very soon after the urine is passed, as the acid very quickly decomposes, forming aceton and carbonic acid.—*National Druggist*, February 15, 1889.

TREATMENT OF HYPEREMESIS GRAVIDARUM.—DR. GÜNTHER has obtained good results in five cases by the use of the constant current. The anode is applied, in the form of a sponge in a metallic shell covered with gutta-percha, to the cervix and the adjacent parts of the vagina; the cathode, in the form of a 10 × 20 cm. plate to the

region of the 8—12 dorsal vertebræ. The current is regulated by an Edelmann's galvanometer and a good rheostat, so as not to have too sudden or too powerful a current, lest abortion be produced. The strength of the current should be not more than 5 milliampères, and the duration of the séance from 2 to 3 minutes at first, and afterwards from 7 to 10 minutes. When the current was applied daily, the vomiting was arrested in four days at latest.—*Centralbl für Gynäk.*, No. 29, 1888.

INCOMPATIBILITY OF CHLORATE OF POTASSIUM AND IODIDE OF IRON.—The *Bolletino Farmaceutico* calls attention to the reaction produced when potassium chlorate and iodide of iron are brought together; the sesquide-oxide of iron is thrown down and iodine is set free, as follows: $2\text{FeI}_3 + \text{KClO}_3 = \text{Fe}_2\text{O}_3 + \text{KCl} + 4\text{I}$. The administration of a dose of this sort produced the death of a patient in a short time, and the *Bolletino*, in discussing the matter, urges great caution in prescribing and dispensing such combinations.—*National Druggist*, February 15, 1889.

CREASOTE AND COD-LIVER OIL.—DR. SEITZ, of Heidelberg, says that a useful formula for the administration of creasote in phthisis and chronic catarrhal affections of the air-passages, is one with cod-liver oil. [Beechwood creasote should be used].

R. Creasote 2.5 grams.
Cod-liver oil 200. "
Saccharin 0.1 "
S. Take a teaspoon to a tablespoonful once, twice, or thrice daily. *These doses are for adults.*

—*Therapeutische Monatshefte*, January, 1889.

HOW TO PRESERVE URINARY CASTS.—DR. CHAS. H. COCKEY, of Baltimore, says in regard to the opinion that urinary casts cannot be preserved: I have slides of urine, containing the different casts, blood, epithelium, etc., that were mounted ten or more years ago, and they are in as good condition as when first prepared. There are two formulæ used, one with glycerine, the other with acetate of potassium. I prefer the former. The latter grows dark with age, and throws down a precipitate. I have a bottle of each that I prepared eight years ago. The urine may be preserved in bottles, and used when desired, or the moist mounts may be made, finished in the usual manner and preserved in the cabinet.

Take of salicylic acid 2 parts.
Borax 1 part.
Add sufficient glycerine to dissolve.
Add three parts water for coarse organisms, five parts water for fine.

It is needless to say that all water used for microscopic purposes should be *distilled* water.

No. 1, take of a saturated solution of acetate of potassium one part, water sixteen parts; mix and add salicylic acid to saturation.

Dr. James Tyson says, "a pinch of salicylic acid will preserve four ounces of urine." *Philadelphia Medical Times*, 5-20-82, page 571.

Dr. J. G. Richardson says, "equal *bulk* of dry acetate of potassium added to urine will preserve casts." Same, page 558.

I have been informed that Dr. Gray, of Richmond, Va., preserves urine by adding a few (2) grains of chloral to each ounce.—*Maryland Medical Journal*, February 16, 1889.

LARGE DOSES OF ANTIFEBRIN IN SCIATICA.—DR. AUSTIN FLINT reports in the *New York Medical Record*, December 1, 1888, a case of long-continued sciatica, which, after failure of packing the limb for thirty-six hours in the flowers of sulphur, nerve-stretching, and other remedies, was cured in forty-eight hours by giving antifebrin to the limit of physiological tolerance. The first day 50 grains were given within four hours, and the patient became somewhat cyanotic and weak, but was relieved by a dose of whisky. The second day 40 grains were given in two hours. The third day the pain was completely gone and the patient walked without difficulty.

IODIZED GLYCERINE.—DR. G. HAMMOND points out that a mixture of tincture of iodine and glycerine produces a greater effect on the skin than the pure tincture, possibly because the glycerine tends to prevent the evaporation of the iodine, and thus enables the whole of its powers to be utilized.—*London Medical Recorder*, Jan. 21, 1889.

COCAINE IN THE TREATMENT OF ULCERS.—DR. E. N. NASON, of Birmingham, has found cocaine of great use in the relief of pain caused by the dressing of burns, fistulæ and painful ulcers. He uses a 2 per cent. solution, and has it sprayed upon the surface directly it is exposed. This acts almost at once, and the dressing may be continued with very little pain, and in extensive burns, with much less shock. The solution should in such cases be used warm. In the case of fistulæ a few drops should be poured over the sinuses before they are packed. With a 2 per cent. solution there is little fear of constitutional effects, and it will be found to act as well and as quickly as a much stronger one.—*Brit. Medical Journal*, January 5, 1889.

COCOANUT AS A TÆNICIDE.—PARISI, of Athens, reports several cases in which the endocarp of the cocoanut acted as an efficient tænicide. No preparatory treatment is necessary. The patient drinks the "milk," and then eats the endocarp of the nut. This is followed by a feeling of abdominal uneasiness and pain, slight diarrhœa, and finally the expulsion of the tænia after some hours.

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THE NEGLECT OF CLINICAL TEACHING.

A little more than a year ago "A Traveler from New Zealand" anathematized the whole system of medical education in the United States because of the (as he supposed) universal neglect of hospital attendance by medical students. The "Traveler from New Zealand" published a letter on the subject, in the *New York Medical Journal*, which called forth some letters of protest against "generalizing from insufficient data." Doubtless the generalizations of the traveler from the antipodes were too sweeping, since in some (a few) of the medical schools in this country the clinical teaching is of a high order; in others the clinical teaching is defective; in not a few it is, to all intents and purposes, omitted, or neglected by the students, since it is not compulsory. One may get an idea of the extent of clinical teaching in the medical schools in this country by referring to the annual announcements of the medical colleges, or to the "Fifth Report of the Illinois State Board of Health on Medical Education."

Taking first the 13 Canadian medical schools, we find that the teaching in them is regulated by the Provincial Medical Acts. That of Quebec, which is applicable, practically, as regards clinical teaching, to all the Provinces, requires, as regards clinical teaching: He (the candidate for license to practice medicine) shall have attended the general practice of a hospital containing not less than fifty beds under the charge of not less than two physicians or surgeons, for a period of not less than one year and a half, or three periods of

not less than six months each; and he shall have also attended six cases of labor. Some of the Canadian schools require twenty-four months' hospital attendance, some require eighteen months, some sixteen months' attendance on the practice of a lying-in hospital. In Halifax the candidate for the degree must have attended during one calendar year the practice of the Victoria General Hospital, or that of some other hospital approved by the Senate of Dalhousie University; he must have attended six cases of midwifery, or for six months the practice of lying-in hospital approved by the college; and must have attained proficiency in the practice of vaccination.

Not one of the Medical Practice Acts in force in the United States distinctly prescribes clinical teaching. The only rule of any board of health or examiners in the United States that bears on this subject is Section V of the "Schedule of Minimum Requirements" of the Illinois State Board of Health. What are the college regulations in in this respect? There are 90 degree-conferring regular medical schools in the United States; of these, 31, or 30.44 per cent., require that the candidate for graduation must have had clinical instruction, or must have attended clinical lectures. In some cases the statements are exceedingly vague, *e.g.*, "he must have attended clinical lectures and dissections." It may be remarked that a student may *attend* clinical lectures and learn but little, just as he may *attend* dissections and not learn practical anatomy. While we do not assert that students may be graduated from 59 of the 90 regular medical schools of the United States without having received clinical instruction, this is certainly a fair inference; and we do not believe that this inference falls far short of the truth. Medical colleges are not prone to make their requirements appear less than they are.

What of bed-side teaching? Are there a dozen schools in the country the students of which are familiarized with disease at the bed-side? We doubt if there are, excluding the Canadian schools. It may be said that bed-side teaching is practically impossible in many of the schools, on account of the large number of students. But the question is as to what should be done. The graduate that has not had bed-side instruction is not fitted for the practice of medicine; he may learn in time, but for all that he is not a proper

person to take charge of a case of illness. To us it seems a self-evident proposition that the practical examination and treatment of patients is a necessary feature of the instruction of the medical student and of the examination for the degree of or license to practice medicine.

In a letter to the *New York Medical Journal*, regarding the communication already referred to, Dr. Duncan Ross says: "We cannot close our eyes to the fact that . . . medical teaching is very largely didactic, and that students do not, except to a very limited degree, avail themselves of the clinical material in our hospital wards. There are several reasons for this neglect of teaching at the bed-side, among which we may enumerate: 1. That students have been for so long a time drilled in didactic teaching at the expense of clinical work. 2. That medical clinics in the amphitheatre are practically the same as didactic teaching, the classes being so large that those in the front seats only can avail themselves of the signs and symptoms elicited. 3. That students are graduated after an examination on the didactic instruction, and not on their knowledge of the art of medicine as taught at the bed-side. And we might further add that clinical teaching has been prohibited by the governing boards of many of the institutions for the sick. The best way to stimulate interest in clinical study in the student is not by an eloquent discourse on signs and symptoms and morbid conditions, but by making him, under competent supervision, elicit signs and symptoms for himself and accustom himself to the treatment given; and, in the event of death, making him conduct the autopsy in a systematic way, under competent supervision. To replace, in a measure, didactic by clinical teaching will necessitate radical changes in our present methods of teaching medicine. No one man can hope to teach the *art* of our profession successfully, in any of the practical departments of medicine, to five or six hundred students."

When Graves was elected physician to the Meath Hospital, Dublin, in 1821, clinical investigation and clinical teaching scarcely existed. Students were not taught to observe cases, and were not trained to do so. "They might," says Bettany, "obtain their degree without having ever practiced diagnosis or co-operated in curing disease even to the extent of writing a prescription." "Often have I regretted," said Graves in

his first lecture at the Meath Hospital, "that under the present system, experience is only to be acquired at a considerable expense of human life. There is, indeed, no concealing the truth—the melancholy truth, that numbers of lives are annually lost in consequence of maltreatment. The victims selected for this sacrifice at the shrine of experience generally belong to the poor classes of society, and their immolation is never long delayed when a successful candidate for a dispensary commences the discharge of his duties . . . nor is the possession of wealth in every instance a safeguard against the blunders of inexperience." At this time, says Stokes in his biographical notice of Graves, the student was kept at a distance; no one cared to show him how to teach himself, to familiarize him with the "ways of the sick," to train his mind to reason, and to inculcate the duty and pleasure of original work.

In THE JOURNAL of August 4, 1888, p. 178, we reprinted from the *Maryland Medical Journal* a note by Dr. George J. Preston, of Baltimore, on "Teaching in the London Hospitals," in which he says: "the teaching is done not by lectures, or, at least, very little in this way, but in the wards. The students are taught to take the histories of the cases, and the chief carefully goes over the history of each case, pointing out characteristics and peculiarities, and directing the examinations which each student makes for himself." The extent to which this method of teaching is practiced in this country is far too limited. The medical student in the United States sees, as a rule, many surgical operations, but has, as a rule, little individual instruction in surgical diagnosis and operative surgery; he hears lectures on cases of diabetes, phthisis, etc., and rare forms of disease, but has little opportunity to examine personally examples of disease that he will meet with in daily practice. He may graduate from some of our colleges without knowing how to make an analysis of urine. Clinical teaching in the dead-house—if we may use such an expression—is also too much neglected.

We know that there are some colleges in the country in which clinical teaching is a prominent feature of the courses; but these colleges are too few. Medicine cannot be learned from books and didactic lectures alone.

MEDICAL LEGISLATION.

At the present time the legislative bodies of many of the States are in session, and before several of them are bills or forms of law designed by their authors to better regulate and foster the education and practice of the medical profession. None of these bills are so framed as to produce with reasonable efficiency all the practical results for which they are intended, and no two of them agree in their essential details. In a great country like this, divided into forty-two States, and yet permitting the utmost freedom of intercourse and of migration from one State to another, it is exceedingly desirable that the laws regulating the education and practice of professional men should be so nearly alike in their essential provisions, that a license obtained in one State should be recognized by the licensing authorities of every other State. The only legitimate object for the enactment of State laws regulating the education and practice of medical men, is to secure an educated and skilful profession, and thereby protect the people from the disastrous effects of ignorance and imposition. To secure this most desirable object, the laws must be so framed as to require every person proposing to study and practice medicine to have, first, a good knowledge of the elementary branches of literature, the mathematics, physics and the natural sciences, with the mental discipline that such a degree of general education necessarily develops; second, the devotion of three years to the diligent study of the several branches of medical science and art, at least six months of each year to be spent in a medical college of recognized good standing; and during the second and third years the college attendance must include clinical instruction in a public hospital containing a daily average of not less than fifty patients; third, the appointment of a competent State Board of Medical Examiners charged with the duty of examining such persons as propose to commence the study of medicine, and grant certificates to those found qualified and register them as students; and also the duty to thoroughly examine all applicants for license to practice medicine and surgery in the State, and issue licenses to those only who are found qualified by the possession of a practical knowledge of all the recognized branches of medical science and art, and of a good moral character.

The three foregoing items must be essential

parts of every law that can be executed in such a manner as to eliminate ignorance and imposition from medical practice, and afford the highest degree of protection of the public and individual health. In almost all other details, such as the number of members to constitute the State Board of Examiners; the term of their office; by whom they shall be appointed; the times and places at which the Board shall hold its meetings and keep its records; the fees to be charged, etc., may vary to suit the exigencies or caprice of the several legislative bodies. But while almost all concede the correctness of the demand for a fair general education as a necessary preparation for entering upon the study of medicine; the devotion of at least three years to the direct study of medicine and surgery in medical colleges and hospitals; and for a competent State Board of Examiners to determine the qualifications of all who propose to study and practice the healing art, there appears to be much difficulty on the part of committees, both legislative and medical, in framing the details of bills in such a manner as to reach the practical results desired. To aid those engaged in such work and at the same time make our views more plain, we give a form for legislative enactment on another page, under the head of "proposed medical legislation," and invite attention to both its principles and its details. Two of its essential features now exist in the laws in force in Minnesota, Virginia, North Carolina, Alabama, and perhaps some other States, but in none of them is there provision for enforcing an adequate general education before entering upon the study of medicine, or for securing proper attention to clinical study.

THE VALUE OF SULFONAL.

This hypnotic has now been before the profession long enough to give some idea of its merits, and there is little discrepancy, thus far, in the accounts of its effects furnished by different observers. Administered in doses of from 15 to 30 grains it usually induces quiet sleep for several hours without subsequent unpleasant effects. Owing to its sparing solubility in water, it is slow in its action, an hour and a half to two hours usually elapsing before the full effect of the drug is experienced.

DR. W. L. WORCESTER, Assistant Physician to

the Arkansas State Lunatic Hospital at Little Rock, has communicated to us the results of trials of sulfonal which have been made there since the middle of November last. It has been administered to seventeen different patients, being nearly all the cases in which the use of hypnotics was thought advisable during that time. Only one patient, a large, powerful man, in a state of violent excitement, proved entirely refractory. In his case three doses, of 20 grains each, administered in the course of one night, failed to produce any perceptible effect. With this exception, 20 grains was the maximum dose, and this amount did not fail in any case to produce sleep, lasting usually from five to eight hours. No undesirable effects on the circulation, appetite, digestion or general condition of the patients were noticed in any case. To most of the patients only a few doses were given, but in one case the administration was continued for thirty-six days, in another for twenty-three. In neither of these cases was it necessary to increase the dose; on the contrary, it seemed more effective in the latter than the earlier part of its administration, and in one case the patient, who had been for a number of months very noisy, seemed to be permanently improved.

A few cases have been reported in which the administration of the drug was followed by a rash that lasted, with troublesome itching, for two or three days. With this exception, the only case of serious toxic effects that has come under our notice is reported by Bornemann (*Deutsche Medicinal-Zeitung*, No. 95). The patient, who was endeavoring to break off the morphine habit, received 60 grains of sulfonal at bedtime. This failing to give sleep, 30 grains additional were administered at 1 A.M. Shortly afterward he showed symptoms resembling those of alcoholic intoxication; had double vision and the feeling of having two heads and two pairs of arms. Although no more of the drug was administered, the symptoms did not entirely pass off until the sixth day. Forty-five grains had previously been administered in one dose, with satisfactory effect.

This case would seem to show that some caution should be exercised in administering this, like most other remedies profoundly affecting the nervous system. In the light of experience with drugs of its class, it is probably not to be expected that it will be entirely free from deleterious effects, but it seems likely to prove as little objectionable

on that score as any hypnotic thus far discovered. Its tastelessness is an advantage not to be lightly estimated. The principal drawbacks developed thus far are the slowness of its action and its high price.

Hypnotics, as a class, are palliative rather than remedial agencies, and this is no exception to the rule. It is much better, where practicable, to remove the cause of sleeplessness than to attack the symptom, but there is a legitimate field for remedies of this class, and there seems little reason to expect a cessation of the demand.

THE LOMB PRIZE ESSAY AND THE NEW YORK HERALD.

Through its Secretary, Dr. Irving A. Watson, the American Public Health Association publishes a circular to the public, saying that after the Milwaukee meeting of this Association, Mr. Henry Lomb received a telegram, signed by James Gordon Bennett, asking for the Lomb Prize Essay entitled "Practical Sanitary and Economic Cooking for persons of Moderate and Small Means," which had just been awarded the \$500 prize, for publication in the *New York Herald*. In response to this, Mr. Lomb and the Secretary, believing that it would be a good medium through which to present this very able and valuable essay to the public, went to New York and had an interview with Mr. Bennett's representative. Almost the first question propounded by the representative was, "What do you ask for the essay?" He was informed that it was not for sale at any price, but that if the *Herald* would publish it in full, it should have the privilege of first presenting it to the public. The representative critically examined the manuscript, acknowledged its great value, and, after making a careful estimate of the number of words it contained and the space it would occupy in the *Herald*, accepted the proposition, and agreed to and did pay for a type-written copy of the same. Mr. Lomb and the Secretary then left, with the full understanding that the entire essay was to appear in the *Herald* at its first convenience. The Secretary ordered fifty copies of the *Herald* that was to contain the essay.

Instead of printing the essay as it was written, the *Herald* mutilated it almost beyond recognition, omitting the scientific portion of it, including the discussion of Food Principles and their functions, omitting also the bills of fare for those in moder-

ate means and the poor—this being the very part of the essay for which the prize was offered. To make matters still worse, "That part of the essay which the *Herald* printed is misleading, inasmuch as it is made up from extracts in some instances taken from different parts of the original, and put together as a continuous production. Portions of the essay were transposed, new headings inserted, sentences broken in two, and words not in the manuscript interpolated. The editor also attempted to stamp his personal opinions and prejudices upon the paper, by the use of display type, in several places." And "instead of the legitimate heading which accompanied the type-written copy of the essay, the editor substituted one, which from a literary stand-point, would be discreditable to the cheapest and most irresponsible publication extant. It contained such expressions as, 'The Devil sends the Cook, but the *Herald* sends forth an Antidote,' 'Indigestion Knocked Out,' 'Girls, the Road to a Man's Heart is through his Stomach,' 'An Abel Essay,' 'Miss Mary Hinman Abel took the Cake,'" etc.

The above statement is made to remove the unjust imputation of inferiority of the essay and incompetency of the judges, which the garbled extracts in the *Herald*, have placed upon them, to say nothing of the violation of understanding in reference to its publication. "The essay, which will soon be given to the public in an authorized form, needs no defence, but it should not be judged by the extracts above referred to. The concluding remarks in the report of the Committee of Award show their appreciation of it, after a critical examination. 'The Committee consider it a duty, in awarding the prize, to emphasize the fact that of all the essays submitted the one selected is not only preëminently the best, but that it is also, intrinsically, an admirable treatise on the subject. It is simple and lucid in statement, methodical in arrangement, and well adapted to the practical wants of the classes to which it is addressed. Whoever may read it can have confidence in the soundness of its teachings, and cannot fail to be instructed in the art of cooking by its plain precepts, founded as they are upon the correct application of the scientific principles of chemistry and physiology to the proper preparation of food for man.'"

It is not to the discredit of Mr. Lomb and Dr. Watson that they were thus imposed upon by

unscrupulous newspaper men. It is to be regretted that they had only a verbal understanding, especially with the *New York Herald*, which has been in existence long enough for most people to be conversant with its methods. Should any of the essays be published in newspapers in the future, we would suggest that a written agreement be obtained, and that they be sent to several papers for simultaneous publication.

THE FORTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

On another page will be found a full and official notice of the coming meeting of the Association, in Newport, Rhode Island, commencing June 25, 1889. This notice of the Committee of Arrangements indicates careful methodical work, excellent accommodations for all Association interests, and a commendable spirit of true *fraternity*. We hope the profession will respond in the same spirit from every State and Territory of the Union. Now is the time for those intending to present papers in any of the Sections, not only to notify the Chairman or Secretary of the Section, but to engage diligently in the work of preparation, that their work may be well considered and complete when presented.

EDITORIAL NOTES.

THE EIGHTH CONGRESS OF THE GERMAN SURGICAL SOCIETY will be held in Berlin on April 24-27. On the first day Professor von Esmarch will open a discussion on the "Etiology and Diagnosis of Carcinoma, especially of the Tongue and Lips," after which there will be an exhibition of patients that have survived for more than three years operations for carcinoma of the tongue, rectum and stomach. The permanent secretary of the Congress is Professor Dr. Gurlt, W., Keithstrasse No. 6., Berlin.

PROFESSIONAL CRAMPS.—This age of division of labor has given rise to a variety of functional spasms, or professional cramps, of which writer's cramp is the type. Cases of such functional spasm have been reported in pianists, violinists, telegraphers, photographers, watch-makers, shoemakers, tailors, sempstresses, cigar makers, milkers, blacksmiths, dancers, etc. M. FÉRÉ has recently communicated to the Société de Biologie a case of flutists' cramp. When the patient

wished to play his instrument, the last three fingers of his right hand became cramped in a painful manner, the spasm affecting both the flexors and extensors of the fingers. The patient was cured by massage and hydrotherapy. Remak some time ago presented to the Berlin Medical Society a patient affected with miiker's cramp. When she tried to do her work, her hand became convulsively closed, the thumb being flexed in the hand. She was obliged to give up her occupation. From the fact that his patient was cured without giving up his work, M. Féré concludes that professional cramps occur only in those predisposed to them, and bear no relation to the local fatigue of organs. In support of this opinion Brown-Séquard cited the case of a journalist who was attacked by writer's cramp in the right hand, then in the left, and finally in the foot, with which he attempted to write. Dumontpallier has reported the case of a patient that had cramp in the right hand when he attempted to write with the left hand. This fact of associated or synergic movements says De Ranse, is much more easily explained by the hypothesis of the central than than of the peripheric origin of the functional spasm. Remak noted in his case marked diminution of sensibility in the hands, especially in the region supplied by the median nerve, and he attributes the trouble to a peripheric neuritis, due to excessive use of the hands.

THE MEDICO-CHIRURGICAL ACADEMY OF SPAIN has set the following questions for its prize for 1889: 1. Critical Study of Antiparasitic Medications—in medicine, surgery, and obstetrics. 2. Critical Examination of Lithotritry, Lithotomy, Litholapaxy, and Perineal and Suprapubic Cystotomy. The essays must be in hand by September 15; they may be written in Spanish, Portuguese, French, Italian, English, or German.

THE INTERNATIONAL PHYSIOLOGICAL CONGRESS will be held in Basle on September 10, 1889. The Committee in charge has chosen co-workers in different countries; the American representative is Dr. H. B. Bowditch, of Boston.

THE CURE OF TUBERCULOSIS.—M. Jules Lebaudy, a wealthy manufacturer of Paris, has recently, on the advice of his physician Dr. Paquelin, subscribed 10,000 francs to a fund for the encouragement of studies on the cure of

tuberculosis. The total amount subscribed on February 15, was 74,656 francs (\$14,931). If, says the *Gazette Médicale de Paris*, the millionaires, who are not very rare, would follow this example, the near future would see scientific researches and their practical application for the good of humanity.

PHYSICIANS IN THE ITALIAN SENATE.—There are now four medical men in the Italian Senate: Dr. Minich, of Venice, Professor Durante, of Rome, Professor Todaro, of Rome, and Professor Cantani, of Naples.

TRANSACTIONS OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.—Any member of the Congress entitled to the Transactions who has not received them, either in this country or Europe, should notify the late Secretary-General, John B. Hamilton, M.D., Washington, D.C., as some parties have changed their residences since their names were registered at the Congress.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held at Newport, R. I., June 25, 26, 27, and 28, 1889.

OFFICIAL NOTICE.

The Association having departed from its usual custom of convening in the chief cities, by deciding to meet the present year at a simple watering place that, despite its repute, is without certain of the resources hitherto relied upon, the Committee of Arrangements ask in advance for the kind consideration of the multitude of physicians whom they trust soon to welcome. A fact or two in this connection may perhaps be stated. Ordinarily a great many local medical men are appointed to aid the Arrangements' Committee, and thereby the duties of each are rendered less onerous. In the present instance, of the eighteen names fifteen comprise the sum total of the resident (regular) physicians of Newport, while the remaining three are dental practitioners. The Committee is therefore this time absolutely "of the whole." Of its number but a single one has ever been a member of the Association, or even attended a meeting. All who comprise it are, however, heartily in accord, and will do their best, trusting that their good will may make amends for their lack of previous experience.

THE COMMITTEE OF ARRANGEMENTS

is constituted as follows: Drs. C. F. Barker, M. E.

Baldwin, C. A. Brackett, J. P. Curley, P. F. Curley, J. P. Donovan, H. Ecroyd, Jr., V. M. Francis, T. A. Kenefick, H. G. MacKaye, G. M. Odell, F. H. Rankin, W. C. Rives, Jr., E. P. Robinson, S. H. Sears, W. S. Sherman, H. R. Storer, and H. E. Turner, of Newport; Surgeon S. M. Horton and Asst. Surgeon R. W. Johnson, U. S. A., of Fort Adams, and Surgeons J. C. Wise, of the Torpedo Station, and T. L. Neilson, and Asst. Surgeons Arnold and Von Wedekind, of the Naval Training School, U. S. N., *ex-officio*; and, as an Associate Committee appointed by the Rhode Island Medical Society, Drs. G. D. Hersey, W. H. Palmer and G. T. Swarts, of Providence.

THE SUB-COMMITTEES ARE:

Finance.—Drs. Rankin, MacKaye and Hersey.

Reception.—Drs. Turner and Odell.

Halls and Accommodations.—Drs. Barker and Baldwin.

Entertainment.—Drs. Sears and Kenefick.

Invitations.—Drs. Rives and Swarts.

Registration.—Drs. Ecroyd and Sherman.

Exhibits.—Drs. Brackett and Robinson.

Transportation.—Drs. P. F. Curley and Palmer.

Section Work and Programme.—The Chairman and Local Secretary.

If, as occasion may arise, correspondents will kindly address the respective heads of the Sub-Committees, it will very materially lighten the labors of the Chairman-in-chief. It is probably generally understood that the titles of papers to be presented to the Sections should, in the first instance, be sent to their Chairmen. Already a large number of communications have thus been listed, and there is reason to expect that the meeting will be a peculiarly interesting one in this regard, but to ensure a hearing at all early in the Session, there should be no longer delay upon the part of contributors.

The Local Secretary appointed at Cincinnati by the Association, having, in consequence of removal to another city, resigned his position, the Committee were for a while embarrassed. Dr. Valentine Mott Francis, formerly of New York, has, however, consented to fill the vacancy, at the unanimous request of his colleagues. Though Dr. Francis has for some years retired from practice, he has none the less retained his interest in the profession, which in the past, was so honored by those whose famous names he bears.

It was thought best, after consultation with the other officers of the Association, to postpone the date of meeting from the first to the last Tuesday (the 25th) of June, for the reasons that the chief hotel of the place would not open until that date, and that earlier the town would not be so attractive, nor the weather as likely to be favorable.

The general Sessions will be held at the Music Hall, Bellevue Avenue, adjoining the Ocean House, and those of the Sections at the Newport

Casino, also immediately contiguous, which for the first time in its history, and as an act of courtesy, is permitted by its Governors to be occupied for other than the purpose for which it was built.

The hotels are, in order of their nearness to the place of meeting, the Ocean House, the Clifton House, the Germania Hotel, Pinard's, Hartmann's, the Aquidneck, Brayton's, the Kay Street House, the Perry House, the Park House, the Sherman House, the Cliff Avenue Hotel, and Bateman's. It is as yet uncertain whether there will be, by the time of meeting, a new hotel at the Newport Beach.

The meeting of the Association occurs nearly synchronously with the two hundred and fiftieth anniversary of the settlement of Newport. The City authorities will probably fittingly recognize the presence of the National Medical Convention at such a moment, the more cordially since the virtual founder of the colony, certainly its principal leader, John Clark, was a physician. It will add to the interest of the occasion that the now Mayor of the City was one of the incorporators, in 1879, of the Newport Sanitary Protection Association, and is the parent of a rapidly rising physician, in New York.

The ancient name of Newport Island was "Aquidneck," or "The Isle of Peace." In view of this, it is to be hoped that the wisdom of the Association in turning away, the present year, from the mutual rivalries and the internal dissensions inseparable from the great centres of practice and of medical education, to what is virtually neutral ground, may be made manifest, and that the coming Session may prove one of the largest, most harmonious, most scientific, and best contented meetings that has yet been held.

HORATIO R. STORER, M.D.

Chairman Committee of Arrangements.
Newport, R. I., Feb. 25, 1889.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

Regular Meeting, October 11, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D.,
IN THE CHAIR.

Richard J. Thompson, M.D., of Fall River, Mass., was elected to active membership, and John B. Learned, M.D., of Florence, Mass., was elected to corresponding membership.

DR. HENRY O. MARCY read a paper on

THE PERINEUM; ITS ANATOMY AND PHYSIOLOGY,
AND THE METHODS OF RESTORATION
AFTER INJURY.

The importance of this subject, and the differ-

ences of opinion yet held by many of the leading authorities, both in Europe and America, seem sufficient to make the theme one of marked interest to the profession at the present time. All good surgery must be based upon a thorough knowledge of anatomy, and while this is essentially true in the consideration of every operative measure, it is especially to be emphasized where the avowed object of the operator is the restoration of the injured parts to their former normal condition. This is the problem confronting the obstetric or gynæcic surgeon when he undertakes to deal with lesions of the pelvic floor.

The description of the anatomical structure of the pelvic floor in most of the text-books appears to me faulty, and on this account much confusion occurs, not only in the use of names applied to certain parts, but especially in involving the whole subject in unnecessary complexity. The comparison between the component structures of the male and female pelvis shows a closer analogy than is at first apparent. The levator ani in the male is inseparably blended with the sphincter ani. The transversalis perinei in a central tendinous line joins with the levatores and sphincters in front of the anus, and anteriorly between this point and the accelerator urinæ and erector penis there exists an irregular space, floored by the deep perineal fasciæ, called the triangular ligament of the urethra. This corresponds to the vaginæ opening in the female. The erector penis and erector clitoridis are similar in position and function. The accelerator urinæ, or ejaculator muscle, separated in the median raphe, is not very unlike the sphincter vaginæ muscle. The transversi perinei are placed more obliquely in the male than in the female, and are often less well developed.

Reference was then made to the dissections of Dr. Henry Savage, of London. These studies, supplemented by the important teachings derived from frozen sections, greatly modify the previous views of the physiological relationship of the pelvic organs. The depth of the perineum is less than is usually described. The axis of the anus cuts that of the vaginæ at nearly right angles, and leaves in the external angle an irregular, flattened portion of tissue, rarely, when examined upon the living subject, more than $\frac{1}{2}$ an inch in thickness. In the nulliparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles sustaining fascia, and the anterior portion of the sphincter ani. The vaginæ side is usually slightly concave, and the rectal side is convex, owing to the inter-blending of the sphincter ani. If the finger is carried up just within the perineum proper, and a little to either side, there can be felt the firm enclosing band of the levator attachments to each of the rami of the pubes above, and descending

to join with the posterior fibres of the sphincter ani and coccygei. In the perineum posteriorly this is firmly interblended upon either side with the transverse perineal muscles. These are under the control of volition in a considerable degree, and acting conjointly serve to draw the vagina forward on to the pubes.

The sacral prominence throws a large proportion of the abdominal weight upon the symphysis pubis and the recti muscles, in the support of the body, and thus relieves the pelvic basin and takes off undue strain from the pelvic floor. The rectum is rarely entirely empty, is circular in shape, serves the digestive apparatus, in a measure, as a constantly receiving reservoir and, when not disturbed, may be felt from the vagina as a tube curving posteriorly. It is suspended and supported—slung, so to speak—by the levator ani muscles which hold the vagina in their encircling loop. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened antero-posteriorly upon itself and its walls are, when at rest, ever in close apposition. The vagina joins with the vulva at right angles to its lateral opening at the entrance of its passage through the pelvic floor. The vulvar organs are all intimately blended with and go to form a part of the perineum proper. On each side of the vaginal orifice are the erector clitoridis, the bulbo-cavernosus, and the transversus perinei muscles, and these, with the levator ani, make up in a large measure the pelvic floor. The bulbi-vaginæ and the Bartholini glands are covered by these muscles with their entire plexus of vessels, abundant distribution of lymphatics and nerves. The erector clitoridis, and bulbo-cavernosus muscles, with the transversus perinei, join each side to constitute the ovate muscular vaginal orifice, and in their conjoined action perform a very important physiological function in sexual congress, often underestimated or ignored.

The much discussed, so-called perineal body has, in my opinion, misled some of our prominent authors into false positions, and caused great confusion and misunderstanding among physicians.

I have been criticised, in emphasizing the muscular floor of the pelvis, that I underestimated the importance of the variously distributed connective tissue and fascia. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male, as well as in the female, covers and incloses the transversus perinei muscles, forming strong ligamentous transverse bands uniting in the perineum, designated by Savage as ischio-perineal ligaments.

The pubo-coccygei, acting in unison with the other muscles of the pelvic floor, draw forward, and thus aid not only in closing the rectum, but hold both it and the vagina in the anterior curve, so important to be retained for the preservation of normal function. A horizontal section, made

through the floor just above the sphincter vaginae and posterior to the junction of the transversus perinei, shows the deeper fibres of the pubo-coccygeus, united in a loop behind the lower border of the rectum, holding it from the fixed point at the pubes, as in a sling. This loop is connected with the transversus perinei, bulbo-cavernosus, erector clitoridis, sphincter vaginae, and sphincter ani muscles by strong layers of connective tissue, the importance of which, for union and support, cannot be readily overestimated.

We have already observed that the circular loop of muscular fibres of the bubo-coccygeus, posterior to the anus, carries the rectum forward on to the vagina and changes the vertical vulvar outlet into an antero-posterior closure of the vaginal canal, and this again is thrown into two lateral folds. The longitudinal muscular fibres external to the vaginal muscle, and which extend, both in front and behind the vagina, along the distal third, are the chief cause in producing this intra-folding, constituting in large part the so-called columnæ rugarum. The letter H shape, thus given to the vaginal column in section, is well known in the arts as the form adapted best for the resistance of vertical weight. This elastic column, retained in its shape and position by its vulvar and perineal support, in its upper border is blended with the cervical tissues. The union thus made with the uterus is at nearly right angles to the vagina, and serves to hold the lower segment of the uterus backward, retaining that organ, like a ship at anchor, swung on its lateral supports, with freedom of mobility at its moorings. This vaginal support to the uterus is so effective, in the normal condition, that the cervix uteri is rarely displaced without there first ensues a change in the vagina. In a sense, muscle and fascia are equally important, since the one fails in its function without the support of the other.

I have carefully reviewed our present knowledge of the anatomy and physiology of the pelvic floor, since all attempt at a restoration must, in large measure, depend upon our understanding what we mean to restore.

It should be taught as cardinal that the obstetrician has not completed his duty to his patient until he has carefully examined, in a good light, the vaginal outlet. There is still considerable difference of opinion if an attempt at immediate repair is advisable. This has been questioned, since the bruised and raggedly torn tissues seem unsuited for primary union, and the lochial discharges liable to infect the wound.

Antiseptic midwifery, however, has abundantly demonstrated the error of such conclusion. When the parts are maintained aseptic, the union rarely fails, and if by any reason this should not take place, the patient is rendered none the less fitted for subsequent operation. The torn tissues are very vascular, extraordinarily developed in prep-

aration for the parturient act, and paralyzed, in a measure, by the extreme tension to which they have been subjected. All this favors a rapid plastic repair. There can be little doubt the time is not far distant when the patient will rightfully demand of the practitioner as rigid care in this respect as in any other part of her supervision.

The primary operation is comparatively simple and often will not require an anæsthetic. A solution of cocaine is frequently of service. Under irrigation with sublimate solution, the vaginal vault is temporarily lightly tamponed to retain the uterine flow, with one or two fingers in the rectum, unite the parts with a deep continuous buried suture of tendon. The torn muscles are not retracted and lie easily in apposition. The deep sutures are limited to the perineum, and should be so placed as to be covered by the superficial vaginal lines of union, and are four or five in number, taken with the double continuous stitch hereafter described. More recently I have modified the operation further by commencing at the upper angle of the wound, closing it by a tendon suture applied as a blind stitch. This is best effected by a straight Hagedorn needle, lightly but accurately piercing the connective tissue, beneath the mucous membrane, from side to side. The sewing is continuous in the same way over the fourchette posteriorly to the limit of the division of the skin. Thus the divided edges are brought evenly into apposition without the vestige of a stitch in sight. The parts, carefully dried, are dusted with iodoform and covered with iodoform collodion. The tampon is replaced by a light packing of iodoform wool, and, if the operation is done aseptically, the repair goes on as in a subcutaneous wound.

If the rupture extends into the rectum, the lower bowel having been well washed with sublimate, care being exercised not to allow retention, and tamponed with iodoform wool, the rectal mucous membrane is closed with great care, the stitches being continuously taken as above described. This is carried to the anal opening and the suture left uncut. When drawn sufficiently tense it becomes a buried suture, and the rectal mucous membrane lies in close apposition. The operation is then continued as in incomplete rupture, the double suture (the Marcy stitch) also carefully enclosing the divided sphincter. When the edges of the two anterior sides of the triangle have been coated by the buried suture, the end is joined to the rectal suture in front of the anus. Although I have usually retained the united parts at rest without strain for some days, by means of a lateral support, as a sort of splint, with parallel pins applied in halves and joined like a safety-pin,¹ in a number of instances I have omitted this support and complete union followed without pain or even œdema of the parts.

The operation is to be commended for its sim-

¹ Vide THE JOURNAL, October 27, 1883.

plicity in application, the comfort of the patient, as well as assurance of result. A word of caution may be required that the tissues are not drawn too taut, since retention in easy apposition is to be sought, and constriction of tissue avoided, as, even in an aseptic wound, injury must otherwise result.

There is a large class of injuries to the pelvic floor, incident to child-birth, usually overlooked or underestimated, because the external orifice shows no material damage. These concealed injuries are due to a submucous tear of the transversi or a rending of the pubo-coccygeus from its posterior attachment. It is exceptional that the injury is symmetrical.

There is a series of severe injuries where the vagina shows no evidence of lesion, and a deep post-vaginal injury to the muscular groups can usually be demonstrated. The finger no longer feels the firm ridge of the transversi muscles closing the vulva posteriorly. The pubo-coccygeus is felt as a large, open loop, passing obliquely backward into the pelvis, changing in a marked degree the plane of the pelvic floor. A careful study of the differences between these and the normal conditions renders this injury readily recognizable.

Dr. Marcy then gave a very careful review of the literature of the whole subject of injury to the floor of the pelvis and the repair of these injuries. Continuing he said: In the earlier part of this paper, I endeavored to show the anatomical relation of the parts, when normal; the more exact conditions of the structures as usually found after injury, and their perverted physiological action, producing various degrees of suffering. It was demonstrated that the changes in the vaginal structures were not generally due to a primary injury of this muscle or its mucous covering, but to secondary forces brought to bear upon it, called into action by the modified relations of the muscles of the pelvic floor; the transversi perinei no longer supporting and holding in place the other groups, but on the contrary, retracting towards their origin and thus everting, the vulvar opening; the levators ani, not able to act as a suspensory band, pulling forward and closing the vaginal canal, but on the contrary, freed from their central moorings, drawing the anus upward and backward. These, of course, are accompanied by changes in vascularity and innervation, by weakening of the pelvic fascia, by absorption of the fat and elastic tissue, by defective action of the bulbo-cavernosus, erector clitoridis, and sphincter vaginae muscles, by consequent imperfect circulation in the erectile tissues, and perverted gland secretion. The ultimate effects are a bladder weakened in support, a distorted rectum, a displaced uterus, each factor adding to the other, until the sum total of discomfort renders life often a grievous burden.

Dr. Marcy then referred, with quotations to his papers read before the American Medical Association in June, 1883, and the Eighth International Medical Congress in August, 1884, and other publications, and he showed conclusively that he was the first to use the buried animal suture in perineorrhaphy, which he had used for the radical cure of hernia in 1871.

In conclusion, Dr. Marcy described his operation as follows: In complete ruptures, with more or less prolapse, the transverses perinei muscle can no longer be felt as a band in front of the rectum, and the pubo-coccygeus has lost its tonicity. The restoration of these, with the various attachments of the sundered groups, is the object sought. The patient, etherized, is placed on a table, in a good light. The limbs are flexed, and both thighs are carried closely on to the abdominal wall. This position is retained by the aid of assistants or the Clovis crutch, which has been simplified by Dr. Kelly, of Philadelphia. Under the hips is placed a rubber inflated irrigating pan, with a large efferent tube, to conduct the fluids into a receptacle under the table. These inflated rubber receptacles are a great convenience, preventing all soiling of patient and surgeon, and were first made for me, nearly ten years ago, by the Davidson Rubber Co., of Boston. Somewhat recently, with a slight modification, they have been introduced to the profession as the "Kelly pad." The irrigation with a 1 to 2000 mercuric bichloride solution is under the charge of an assistant, and the entire operation is conducted with due antiseptic care. The sphincter having been stretched and the bowel thoroughly emptied, two fingers in the rectum, the posterior third of the vagina is separated with knife or scissors, from its vulvar attachments. The recto-vaginal space is easily found, without much loss of blood, and the dissection of the vagina from the rectum is carried into the lateral sulci as far as may be judged sufficient. The separated flap is lifted and held by an assistant; then I introduce a large curved needle, the eye near the point, armed with tendon, deeply from side to side; the opposite end is threaded, and the needle withdrawn, carrying the tendon with it. The suturing is continued in this way, until the required number of stitches are taken. This manner of applying the suture, called the shoemaker's stitch, quite unlike any other, I demonstrated at the International Congress in London, in 1881, and so far as I know, its originality has never been questioned.

In rectocele, with prolapse and large, deep sulci, the buried double stitch is taken on either side to join the separated fibres of the levator loop with the retracted transverse perineal muscles, and then are united laterally. Usually, four or five stitches are required to unite the posterior vaginal fascia, and then the separated ends of the

perineal muscles are included by deep sutures. Any needle and stitch may be used, but I prefer the one above mentioned.

In prolapse, where there is great redundancy of the posterior vaginal wall, a portion may be required to be removed, otherwise the edges of the inverted sides are united vertically. I use the buried suture, as described above, in recent cases, and seal with iodoform collodion.

In complete ruptures, after a careful refreshing of the sundered edges with a sharp knife, I split laterally, between the rectum and vagina, quite sufficiently to permit a free separation of the flaps. Over the sphincter, it is usually necessary to carry the dissection in a posterior direction, in order to reach the retracted ends of the sphincter muscle. The lateral dissection must also be sufficiently deep to reach the separated ends of the transverse perineal muscles. To effect this, the posterior third of the torn vagina is usually detached.

If the ends of the retracted perineal muscles seem tense when united, I use the lateral supports, applying one or two pins as heretofore described. These serve simply to retain at rest the coapted parts, and lie parallel to the anus outside the sutures. If the operation is aseptic, the after-treatment is simply rest in bed, and the cure is complete. The operation should be conducted with the strictest care, since it is difficult to operate upon this portion of the body without contamination of the parts involved. The sutures should be applied under irrigation, and the parts about the vulva covered with towels wet in a sublimate solution. Of all surgical procedures, few can be more dangerous than the deep implantation of infection carried by a septic buried suture.

My method differs from others in the following particulars:

1. The dissection of the posterior third of the vagina, not its mucous membrane, from its vulvar attachment, carried as deemed necessary into the recto-vaginal space, and the retention of this flap.

2. In rectocele with prolapse, the closure of the deep layers of post-vaginal fascia by a continuous buried animal suture, taken either single or double stitch.

3. In lifting forward the vagina from its vulvar attachments, the retracted transverse perineal muscles with their connections can be reached and closed also by a deep buried suture, making in this way a true restoration of the pelvic floor.

4. Coapting all superficial surfaces by a buried animal suture, applied in a blind, continuous stitch from side to side, covering the same when dry with iodoform collodion.

5. The application of lateral supports, pins, external to the sutures as a splint, to hold the parts in complete apposition without strain.

6. In complete ruptures, the lateral dissection, the joining of the rectal and vaginal edges with buried sutures, and then finishing the operation as in complete ruptures.

Philadelphia County Medical Society.

Stated Meeting, January 23, 1889.

THE PRESIDENT, W. W. KEEN, M.D., IN THE CHAIR.

DR. MORDECAI PRICE read a paper on

AMPUTATIONS OF THIGH AND LEG.

(Continued from page 321.)

DR. H. R. WHARTON: I agree very thoroughly with Dr. Price as to the necessity of securing a good stump, and as to the point of election in amputations through the leg. I have for some time made it a rule not to make any amputation near the ankle-joint, preferring to go some distance above, if I have to go above the ankle.

I, however, disagree with him in regard to the discomfort which a patient suffers with a Syme or a Pirogoff amputation. I have seen such cases get along very well, and walk with comfort. I also disagree with Dr. Price in regard to knee-joint amputations. I, of course, refer to amputation through the joint, the condyles being saved and the patella being left. I have seen these patients apparently walk with comfort, and have a good stump. Where the amputation is one at the knee-joint, a portion of the condyles being sawed off and the patella removed, a square stump is secured which can be well covered. I have seen a number of cases of this operation, and in these the patients had good stumps.

I think that the main element of a good stump is a movable covering, the skin being perfectly movable over the bone. If the skin is bound down and is subjected to pressure, the patient will suffer from constant irritation, and will be apt to exhibit some of the forms of mechanical ulceration seen in stumps.

I agree in regard to the uselessness of trying to save too much time in amputations.

DR. JOHN B. DEEVER: In the large number of amputations I do in the hospitals of Philadelphia, I never do a Syme, but I do a Pirogoff and a Chopart. We often have to be governed by the wishes of the patient. I have had cases where I advised an amputation of the leg in order to render the use of an artificial limb easier, but where the patient has insisted that as much as possible of the limb should be saved. A Pirogoff does well. It answers better for a working man than for one under better circumstances. Osteoplastic resection of the foot gives the patient an almost useless limb. Yet it is a very nice and a very difficult operation. It has been performed only twice in this city, once by Dr. Hopkins, and once by Dr. F. H. Gross, at the German Hospital. The patient of Dr. Gross is still in the hospital. He is able to get around, but I do not think that he will be able to do hard work.

In amputations through the knee-joint I think

that it is important to leave the patella, which serves partly to carry out the theory of Dr. Price of leaving a plane surface. When the patella is removed there are left two irregularities caused by the condyles. We must here be careful not to divide the ligamentum mucosa. If that is divided the action of the quadriceps causes retraction of the patella. I have, however, seen retraction in cases where attention was paid to this point. In such cases it would be better to do the amputation at the knee. This, of course, opens up the medulla, and exposes the patient to the dangers of septicæmia, but with antiseptic surgery I think that the risk would not be increased.

DR. J. PRICE: Attention has been called to the locomotion of persons wearing artificial limbs. Dr. Price has not said very much about his own locomotion. He is very fond of using the gun, and I have often hunted with him from morning until evening, and can speak of the tolerance of a good stump and a good artificial limb. In his own case he has wonderful tolerance for prolonged walking and climbing.

I have watched many cases of amputation where the operation was performed years ago. One case, operated on by Dr. John Mitchell, I see sometimes with one crutch and sometimes with a crutch and a cane. In none of these cases is the locomotion good. The amputations were made at the points criticised this evening.

DR. A. HEWSON, JR.: The only point I have to offer is in regard to Pirogoff amputations. It has been suggested that no artificial appliance could be employed in these cases that would look well. In several of these operations, done by my father, I have seen a shoe so well applied to the stump that it was almost impossible to tell that the man had an artificial foot. The difficulty was overcome by a large spring being put in the place occupied by the ball of the foot, *i. e.*, extending from the heel toward the toe, so that when the heel was put to the ground there was not that sagging in of the shoe as occurs when simply a filled shoe is worn.

DR. O. H. ALLIS: My own feeling is that where amputation is very low down near the ankle-joint, the limb is used almost as a crutch; whereas if the amputation is a little below the knee, the instrument maker can make so good an ankle-joint that the wearer can walk on any declivity almost as well as with the natural limb. When you try to piece out an ankle, the part cannot be used as a foot, but is more like a crutch.

DR. FRANK WOODBURY: I should like to say a word in regard to a class of cases to which reference has not yet been made, that is, to amputation for disease, and particularly tuberculous disease of the joints. I would refer to a series of observations made by Ogille, in which it is stated that the prognosis of tuberculosis of the lungs is improved by an amputation, and that the larger

the portion of the body removed, the better chance there is for the entire recovery of the patient. It seems that in certain cases of phthisis the nutritive powers are not sufficient to maintain the nutrition of the entire body, so if we can remove say one-eighth, or a larger portion of the body, the digestive function and the blood-making function are more than sufficient for the remainder of the body, and the nutrition is therefore improved.

This is directly to the point of operating in cases of joint tuberculosis, and also in the direction of the paper that we should not endeavor to save all the tissue that is available.

DR. M. PRICE: I agree with the statement of Dr. Allis that such appliances are just like crutches. A man with a well-made foot can readily go up stairs giving a little spring with the sound foot. I was able to play base-ball, football, and the like, and was at school for a long time before it was known that I had an artificial limb by any one with the exception of my roommate.

In regard to Dr. Collins' statement as to the teaching when I was a student, Dr. Smith, who was at that time professor of surgery, was one of the most conservative of men. His statement was that we have to consider what we are doing in amputating, and consider the influence upon the man himself. As many of these patients are led into bad habits of dissipation by being invited to drink by every one they meet, it might, in these cases, be better to amputate around the throat. I am not surprised that Dr. Collins has called attention to the fact that Dr. Smith amputated three fingers' breadth below the tubercle of the tibia. Dr. Smith had been in the war, and had seen much to show him the usefulness of a proper length stump.

If I were going to amputate near the knee, I would operate below the joint, giving the patient a knee-bearing leg, with the patella and all its attachments in place. As soon as you amputate the leg, retraction takes place. It is one of the secrets of treating a man with amputation to keep the stump straight. If the limb is left lying loosely on a pillow, there will be retraction of the muscles. Now and then I have to wear a peg, and it is then two or three days before I can straighten the leg. I would not suggest an amputation that opens the knee-joint. Where the operation suggested cannot be done, I would operate at the junction of the lower and middle third of the thigh, and thus the knee-joint could be brought in the proper position.

In the case of workingmen who have passed that period in life when there is no chance of advancement, I have no objection to a Chopart, or any other amputation that will give the man a limb that he can walk upon. I am speaking of amputations that will give the man the same ap-

pearance that he originally had. I think we err in discussing the question of what ought or ought not to be done with the patient. We are there as his adviser, and it is our business to do the best for the patient. I say to him such and such should be done. If he says that he will not have it, I decline to treat him.

STATE MEDICINE.

Proposed Medical Legislation.

AN ACT ENTITLED, AN ACT TO REGULATE MEDICAL EDUCATION AND THE PRACTICE OF MEDICINE AND SURGERY, AND TO PUNISH PERSONS VIOLATING THE PROVISIONS THEREOF.

Be it enacted by the Legislature of the State of

SEC. 1.—A Board to be known as "The State Board of Medical Examiners," shall be appointed by the Governor, subject to the approval of the Senate, consisting of nine members, whose duty shall be to examine all applicants for registration as students of medicine, and to examine fully all persons applying for license to practice medicine and surgery in this State. The appointees must be members of the medical profession of recognized ability and honor, and residents of the State not less than five years; but no member of any college or university having a medical department shall be appointed to serve as a member of said Board. The term of office of the members of said Board shall be three years, and until their successors are appointed; provided, however, that the first appointees shall be divided into three classes of three members in each class, the term of service of the first class shall expire in one year, that of the second in two years, and that of the third in three years from the date of their appointment.

SEC. 2.—Said Board of Medical Examiners shall elect a President, a Secretary, and a Treasurer. It shall have a common seal, and the President and Secretary shall be empowered to administer oaths in taking testimony upon any matter pertaining to the duties of said Board. Said Board shall hold meetings for examinations at the Capitol building of this State the first Tuesdays of January, April, July and October of each year, and at such other times and places as the Board shall deem expedient. Said Board shall keep an official record of all its meetings; also an official register of all applicants for examinations for a certificate as a medical student, or a license to practice medicine and surgery in this State. Said register for certificate or license shall show the name, age, and time he or she may have spent both in preparatory and in medical study, together with the name and locations of all col-

leges which have granted degrees or certificates of attendance upon lectures in medicine. Said register shall also show whether such applicant was rejected or licensed under this act. Said register shall be *prima facie* evidence of all matters therein contained.

SEC. 3.—All persons hereafter intending to commence the study of medicine in this State shall apply to the State Board of Medical Examiners for an examination and certificate of registration as students of medicine and surgery. It shall be the duty of said Board to personally examine all such applicants in the following branches of general education, viz.: English grammar, composition, geography, civil history, arithmetic and algebra, physics and all the natural sciences, and at least one of the following languages, Latin, French, or German, and shall give certificates only to those whose examinations are satisfactory to the Board. And no person shall be credited for any part of the legal period of his medical studies prior to the date of his certificate of preliminary examination. All persons hereafter commencing the practice of medicine or surgery in any of its branches in this State shall apply to said Board for license so to do. Applicants for examination shall be divided into three classes, to-wit: Persons graduated from legally chartered medical schools not less than five years before the date of application for a license; *Second*, all other persons graduated from a legally chartered medical school; and, *Third*, medical students taking a regular course of medical instruction. Applicants of the first class shall submit to examination upon the following named branches, to-wit: materia medica and therapeutics, obstetrics and gynecology, practice of medicine, surgery and surgical anatomy. Those of the second and third classes shall submit to examinations upon anatomy, physiology, chemistry, materia medica and therapeutics, histology, pathology, hygiene, practice of medicine, surgery, obstetrics, gynecology, diseases of the eye and ear, medical jurisprudence, and such other branches as the Board may deem advisable. The questions for examination of applicants of the first and second classes shall be the same in branches common to both. Said Board shall not license graduates of a later date than January 1, 1890, until satisfactory proof is furnished that the applicant has studied medicine and surgery at least three years after registration as a medical student before graduation; attended at least three annual courses of medical lectures of not less than six months' duration each, including attendance on hospital clinical instruction during the second and third courses; is of good moral character, and not less than 21 years of age. Applicants of the third class upon completion of two full courses of lectures, of not less than six months' duration each, can be examined upon the follow-

ing named branches, to-wit: anatomy, physiology, chemistry, histology, pathology, materia medica, and therapeutics. If said examination is satisfactory it may issue a certificate that the applicant has passed a final examination in these branches. All examinations shall be both scientific and practical, but of sufficient severity to test the candidate's fitness to practice medicine and surgery.

SEC. 4.—All examinations shall be in writing, unless otherwise requested by the applicant. In oral examinations the questions and answers must be of a fundamental character, and such as can be answered in common by all students of medicine. When desired, said examination may be conducted in the presence of the Dean of any medical college, or the President of any State Medical Society in this State. If said examination is satisfactory the Board shall issue a license entitling the applicant to practice medicine in this State. The votes of all the examiners shall be by yes or no, and written, with their signatures, upon the backs of the examination papers of each candidate for the respective branches. A license shall not issue unless the applicant passed a satisfactory examination on at least three-fourths of the branches required by this Act. Said examination papers shall be kept on file by the Secretary of said Board, and shall be *prima facie* evidence of all matters therein contained. All licenses shall be signed by the President and Secretary of said Board, and attested by the seal thereof. The fee for examination shall be fifteen dollars for each applicant of the first and second classes, and twenty dollars for each applicant of the third class, and a fee of five dollars may be charged for each examination in preliminary education. It shall be paid to the Treasurer of the Board, and applied towards defraying the expenses thereof.

SEC. 5.—The Board may, by a unanimous vote refuse to grant or may revoke a license, for the following named causes to-wit: Chronic and persistent inebriety; the practice of criminal abortion, or for publicly advertising special ability to cure diseases, that in the opinion of said Board, it is impossible to cure. In complaints for violating the provisions of this Section, the accused person shall be furnished with a copy of the complaint and given a hearing before said Board, in person or by attorney, and can finally appeal from the decision of said Board, to the appointing power thereof.

SEC. 6.—The person so receiving said license, shall file the same, or a certified copy thereof, with the Clerk of the District Court in, and for the county in which he or she resides, and said Clerk of the Court shall file said certificate or copy thereof, and enter a memorandum thereof, giving the date of said license, and the name of the person to whom the same is issued, and the

date of said filing, in a book to be provided and kept for that purpose: and said Clerk of the Court shall each year, furnish to the Secretary of said Board, a list of all certificates on file in his office, and upon notice to him of the change of location or death of a person so licensed, or of the revocation of the license granted to such person, said Clerk shall enter at the appropriate place in the record so kept by him, a memorandum of said fact; so that the records so kept by said Clerk of the Court shall correspond with the records of said Board as kept by the Secretary thereof. In case a person so licensed shall move into another county of this State, he or she shall procure from the Clerk of the Court a certified copy of said license for which no charge shall be made, and shall file the same with the Clerk of the District Court in the county to which he or she shall so remove. Said clerk shall file and enter the same with like effect as if the same was the original license.

SEC. 7.—This Act shall not apply to commissioned surgeons of the United States Army or Navy, to physicians or surgeons in actual consultation from other States or Territories, or to actual medical students practicing under the direct supervision of a Preceptor.

SEC. 8.—Any person shall be regarded as practicing medicine or surgery within the meaning of this Act, who shall append the letters M.D. or M.B., to his or her name, or repeatedly prescribe or direct for the use of any person or persons any drug or medicine, or other agency, for the treatment, cure, or relief, of any bodily injury, infirmity or disease.

SEC. 9.—Any person practicing medicine or surgery, in this State, without first having obtained the license herein provided for, or contrary to the provisions of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not less than \$50 or more than \$100 dollars, or by imprisonment in the county jail for a period not less than ten or more than ninety days; or both fine and imprisonment. Justices of the Peace, and the respective Municipal Judges, shall have jurisdiction of violations of the provisions of this Act. It shall be the duty of the respective county attorneys to prosecute violations of the provisions of this Act.

SEC. 10.—All Acts or parts of Acts now existing not in accordance with the provision of this Act are hereby repealed.

SEC. 11.—This Act shall take effect and be in force from and after its passage.

THE Ohio Senate has passed a bill prohibiting physicians from advertising, and fixing a license fee of \$100 a month for all non-resident practitioners practicing in the State.

NEW INSTRUMENTS.

NASAL SPECULUMS.

BY CARL H. VON KLEIN, A.M., M.D.,
OF DAYTON, OHIO.

The experience of physicians in examining the anterior parts of the nasal cavities has been of an

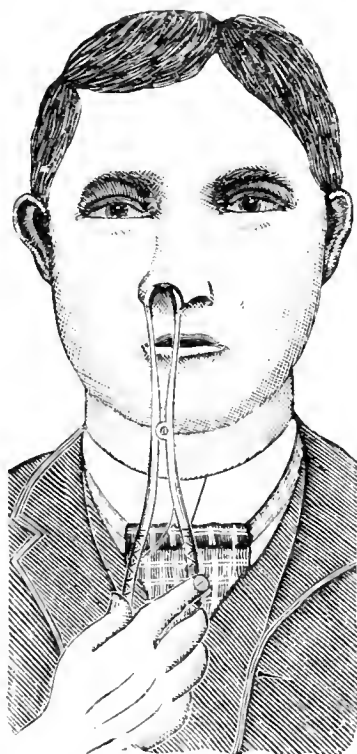


Fig. 1.

unsatisfactory character, from the fact that the numerous nasal speculums now in the hands of the physicians are, in my humble judgment, torturing apparatuses.

They are all made, in one way or another, with two or more prongs or blades, which are introduced into the nostril and dilated, either with a thumb-screw or spring, until the instrument is self-retaining. A diseased lining of the nose cannot stand much dilatation without severe pain, in many cases the pain is so intense that the patient grasps the operator by the hands and begs not to be hurt.

Nervous patients become anxious to get through with their examination. In nine cases out of ten the blades or prongs slip out, and the physician prays for a renewal, but many patients will not allow a re-examination. A careless operator will probably not renew the operation, to the satisfaction of his patient.

I have, therefore, sometime back, devised and published a description of my long-handled speculum, as shown in Fig. 2, by which the patient can dilate his own nostrils to his own satisfaction, as shown in Fig. 1.

The patient can make a dilatation with great ease and without the slightest inconvenience to himself or annoyance to the operator. The patient introduces it with the right hand in the right nostril, and with the left hand in the left nostril, the more he closes his hand or presses the handles together the more he dilates the nares.

The ends of the blades are either straight or slightly curved on each outer side, to prevent it from slipping out. However, there are many nasal cavities that the slightest curve on the blade pressing against the membrane, no matter how smooth the edges may be, can hardly bear the slightest dilatation.

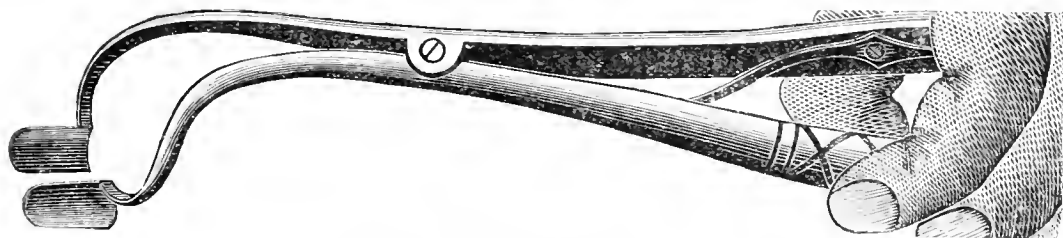


Fig. 2. Full size, 9 inches long.

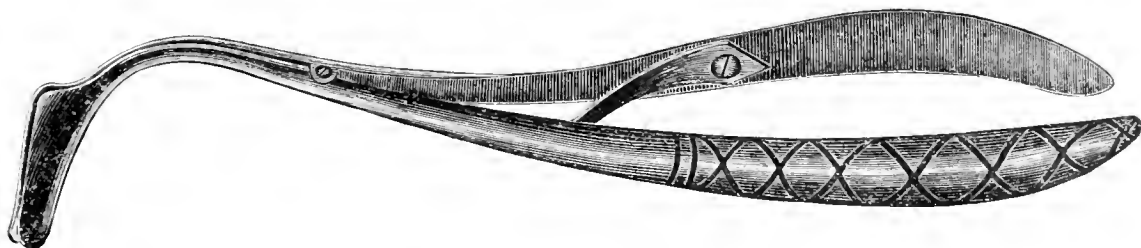


Fig. 3. Full size, 10 inches long.

In such cases the straight blade speculum must be used. I have, since my last description in the *Medical Register*, devised another nasal speculum or nasal dilator, with which the nasal cavity can be dilated without covering any part of the walls of the inner cavities.

The blades, as shown in Fig. 3, are turned upwards parallel with the handles, thus to enter the extended part of the nose in a vertical position parallel with the face, making no obstruction to the parts where an examination may be necessary.

The operation is so easy and so comfortable that children under 3 years of age undergo examination of the nares without the slightest complaint. The handles of the instrument are all 9 inches in length, while the blades vary in size, as a rule they should go 5 in a set, 3 various sizes where the blades are at an angle, and 2 sizes where the blades are upwards. However, one of each of the middle sizes would be sufficient to the average practitioner.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

An English Lady Defends her Thesis before the Paris Faculty—The British Army Medical Department—The Metropolitan Hospital Sunday Fund—Bee-stings in Rheumatism—The Action of Hydrobromate of Ulexine—The British Dental Association—The Children's Fête—Saccharin—The Pasteur Institute.

Miss Blanche Edwards, daughter of a deceased English doctor settled in Paris, publicly defended her thesis for the degree of Doctor of Medicine a short time ago. The subject she had chosen was "Hemiplegia in Diseases of the Nervous System." As the degree has not been frequently conferred on women by the Paris faculty, a large number of spectators filled the hall. Miss Edwards was congratulated by Professor Charcot, who admitted that she had passed her examinations in a specially brilliant manner, but did not clearly see what return she could expect for her conscientious labors. He asked her what she proposed to do? Her reply was, "I mean to attend all sick persons, but to devote myself specially to women and children." A number of students who occupied the body of the hall expressed their disapproval of the proceedings, but not very noisily.

It is rumored that Sir Thomas Crawford, K.C.B., will be the last chief of the Army Medical Department. This latter will be placed under a Board consisting of two non-medical officers and one medical ditto. It is also stated that some concession will be made to the Army Medical De-

partment in reference to their grievance that they have been lately deprived of relative rank. The majority of the medical officers of the Army are in favor of having military titles, as is the case with the armies of Russia, the United States, etc. So far as personal danger is concerned the Army medical men have of late suffered more than any other branch of the service. It is thought that there is no good reason why a medical officer who is obliged to be in front of the battle and compelled to fight also, should not be called by a purely military title. In the olden days of the British Army it was usual for medical officers to hold commissions as combatants also.

"Sixteen Years of the Metropolitan Hospital Sunday Fund" was the part title of a lecture recently delivered by Sir Sidney Waterlow at St. Bartholomew's Hospital, when the Lord Mayor presided. He said that last year £40,379 had been collected, making a grand total for the sixteen years of £513,962, including legacies. Of this less than teupence in the pound had been spent in salaries, collecting, distributing and advertising. In the division of the money, 4 per cent. was devoted to the purchase of surgical appliances, which were given away to the poor, then awards to hospitals were based on the average total expenditures of the three previous years, and each hospital was required to send a balance sheet and report for three years, with other details verifying receipts and expenditures. Sir Sidney said there were at present 2,031 beds in seventy-one metropolitan hospitals empty for lack of funds.

Bee-stings are now recommended as a somewhat heroic treatment for rheumatism. It is stated that an average of just 225.4 stings suffice to effect a cure in any one case. The introducer of the bee-sting treatment is evidently almost as ardent an entomological enthusiast as Sir John Lubbock, for he takes great pains to state that bee-stings are not nearly so dangerous as most people imagine, for he has, by way of demonstrating this proposition, given several healthy persons 150 stings apiece in the course of a single day without any ill consequences whatever. Acupuncture has in its day had its supporters, but what, if any, may be the advantages of apiopuncture must be left for time and experience to determine. Whether, however, there are any healthy persons in this country willing to receive in the cause of science some 150 stings *per diem*, or even any rheumatic patients who would like to be cured by 225½ stings, must be left for Dr. F. Tere, the introducer of the new remedy, to find out.

The active principle of gorse (*Ulex Europæa*) has been made the subject of special experiments, the alkaloid used being in the form of hydrobromate of ulexine. When it was applied to frogs this drug, at a certain dose, arrests all voluntary movements and reflexes, due to palsy of the motor

tract of the spinal cord and the motor nerve trunks. The muscles themselves gradually fail but, unless the dose has been very high, are not paralyzed. Respiration is affected and arrested by doses which are not large enough to produce much effect upon the voluntary muscles. The symptoms of this respiratory action come on with irregular breathing, which finally becomes more shallow until death ensues. When the hydrobromate of ulexine is given to one of the higher animals, it produces a rise of arterial pressure which lasts only for a short time, being followed by a fall. It is shown that the depressant action of the drug is its most important feature, for if large doses are used no primary rise, but a steady fall occurs. This fall is evidently due largely to a laming of the heart muscle by the direct action of the drug. The diuretic action of ulexine is very marked, being quite as great as that of caffeine. The opinion entertained is that the action of ulexine and its compounds upon the respiration is of so violent a character that it will be difficult, if not impossible, to make use of this agent in medicine. At any rate, it appears to be one of the most powerful alkaloids ever discovered, and requires the greatest care in manipulating it. Further experiments are now being carried out with the drug by experimenters who think it will eventually take its place as a very useful addition to the pharmacopeia of the future.

The British Dental Association will hold its annual meeting in Brighton on August 22, 23 and 24. The Association is doing much to educate the public on dental questions, and is uniting and consolidating the members of the dental profession. The meeting promises in every way to be a success.

The annual children's fête has recently been held at the Evelina Hospital for sick children. Through the generosity of various friends four large Christmas trees were provided. It may be mentioned that the hospital, of which Baron F. de Rothschild is President, has sixty cots permanently in use, and that in the course of a twelve-month some 500 children pass through the wards. Since the last Christmas fête the floors of all the wards have been relaid with teak according to the practice adopted in the principal general hospitals, and though the nurses past and present have borne the expense so far as one ward is concerned, an additional burden has been cast upon the institution.

The report having gained general currency that the use of saccharin is injurious, the following report has been published by Dr. Thomas Stevenson, official analyst of the Home Office: 1. Saccharin is quite innocuous when taken in quantities largely exceeding what would be taken in any ordinary dietary. 2. Saccharin does not interfere with or impede the digestive processes when taken in any practicable quantity. 3. His personal ex-

perience is that saccharin may be taken for an extended period without interfering with the digestive and other bodily functions, hence there is no reason to think that its continued use is in any way harmful.

It is reported from Paris that the Pasteur Institute is now complete, and the laboratory appliances of the great bacteriologist are now being transferred to the new and magnificently appointed building. G. O. M.

MISCELLANY.

DR. WM. G. AUSTIN has been recently appointed resident quarantine physician at Mississippi Station.

DR. HORACE STEVENS, of Cambridge, Mass., died on February 24. He was graduated from the Medical Department of the University of Vermont. He was born in New Hampshire in 1816.

DR. EMANUEL BRAILLER, a prominent physician of Chambersburg, Pa., died on February 6, aged 48 years. He was a member of the American Medical Association, and of the Pennsylvania State Medical Society.

INFECTIOUS DISEASES.—Scarlet fever has been prevailing in Bismarck, Dak., for some time, and all churches, schools, and places of amusement have been closed. Diphtheria has been prevalent in Mechanicsville, Iowa. An outbreak of smallpox has occurred at Carson, Neb. At Belvidere, Ill., the schools have been closed in consequence of the prevalence of measles, varicella, and scarlet fever.

THE AMERICAN ASSOCIATION FOR THE STUDY AND CURE OF INEBRIETY has appointed a committee on "Nostrums, Proprietary Medicines, and New Remedies." Dr. N. Roe Bradner, 514 So. Third St., Philadelphia, Pa., is chairman of the committee, and will be glad to hear from any one who has knowledge of nostrums containing opium, alcohol or other poison, or of the evil resulting from their sale. This Association, of which Dr. Joseph Parrish, of Burlington, N. J., is now President, was organized November 30, 1870, the late Willard Parker being the first President, and the first paper, on the "Pathological Influence of Alcohol," was contributed by N. S. Davis, M.D., of Chicago.

A SIMPLE TEST FOR BLOOD, and easy of application, is made by the addition of tincture of guaiac and ozonized ether to a weak solution of blood, when a bright blue color is produced. If a drop of blood be mixed with one-half ounce of distilled water, upon the addition of one or two drops of tincture of guaiac a cloudy precipitate of the resin appears, and the solution has a faint tint. If to this solution one drop of an ethereal solution of hydrogen peroxide is added, a blue tint appears, which, upon a few minutes' exposure, gradually deepens. This test is very valuable for minute quantities of blood, and Dr. Day, of Geelong, succeeded in obtaining sixty impressions from a stain upon cloth where the microscope failed to show any blood.—*Coll. and Clinical Record.*

AT THE COMMENCEMENT EXERCISES of the Meharry Medical Department and the Dental Department of Central Tennessee College, held on February 21, the degree of M.D. was conferred upon 14, and the degree of D.D.S. upon 6 candidates. The Dental Department of this College is the only dental school for Negroes in this country, and the Meharry school is one of the two medical schools for Negroes.

DR. HENRY H. LANGWORTHY, of Rochester, N. Y., died at his residence in that city on February 5. He was graduated from the Geneva Medical College in 1848. He was a prominent member of the New York State Medical Society.

MEDICAL GRADUATES.—At the annual Commencement of Rush Medical College, Chicago, held on February 19, 127 candidates were graduated. At the Commencement of the College of Physicians and Surgeons, of Chicago, held on February 26, 48 candidates were graduated.

J. H. PURDY, M.D., formerly of Seneca Falls, N. Y., died recently, of yellow fever, at Panama, where he had gone to practice his profession. He was a graduate of Bellevue Hospital Medical College, in 1869.

THE FIFTH ANNUAL MEETING of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn, on Tuesday, May 28, 1889. All Fellows are invited to present papers, communications, relation of cases and specimens at the meeting. All written communications presented will be published under the direction of the Executive Committee.

WM. T. LUSK, M.D., President.

E. H. SQUIBB, M.D., Sec'y, P. O. Box 94, Brooklyn.

INGLUVIN IN THE VOMITING OF PREGNANCY.—Dr. Popp reports considerable success with ingluvin in the vomiting of pregnancy. Having a very obstinate case, upon which he had exhausted all other resources, he administered three times daily, one-half hour before meal-time, 8 grains of ingluvin, and immediately afterward 2 tablespoonfuls of 1 per cent. hydrochloric acid solution. An improvement was observed after a few doses had been taken, and cure was effected after the treatment had been continued for three weeks.—*Deutsche med. Wochenschrift*, January 17, 1889.

LETTERS RECEIVED.

A. Kingstone, Philadelphia, Pa.; Dr. W. O. Anderson, Eureka, Cal.; Dr. Wm. Boys, Waverley, Ia.; Dr. R. Harvey Reed, Mansfield, O.; Geo. Purviance, Surgeon U. S. M. H., Baltimore, Md.; Dr. J. W. Park, Williamstown, Pa.; W. P. Cleary, New York; Dr. J. M. Bell, Murphy, N. C.; Dr. J. B. Hamilton, Washington, D. C.; Chas. W. Greene, Chicago; Dr. G. H. Randall, Seattle, W. T.; Dr. H. R. Storer, Newport, R. I.; J. H. Bates, New York; Dr. W. H. Forbes, Richmond Hill, N. Y.; J. B. Lippincott Co., Philadelphia; Joseph Bischoff, Elgin, Ill.; Drs. Kent and Morrell, Putnam, Conn.; Jas. S. Kirk & Co., Chicago; Dr. John Phillips, Stevens Point, Wis.; W. H. Schiefelbin & Co., New York; Dr. A. L. Hummel, Philadelphia; John A. Barrett Battery Co., Baltimore, Md.; Pantagraph Stationery Co., Bloomington, Ill.; Dr. St. v. Martinitz, Cedar Rapids, Ia.; Dr. J. G. Perry, New York; Dr. W. H. Schuyler, Boise Barracks, Idaho; N. W. Aver & Sons, Philadelphia; Dr. J. W. Leadnham, Franklin, Pa.; National Architects' Union, Philadelphia, Pa.; Price Baking Powder Co., Chicago; Wm. S. Merrell Chemical Co., Cincinnati, O.; Dr. R. J. Dumlison, Philadelphia; Woman's Medical College, New York; Dr. Joseph Spiegelhalter, St. Louis, Mo.; Dr. D. T. Brown, Michigan City, Ind.; Philadelphia Polyclinic; Dr. H. T. Bahnson, Salem, N. C.; James F. Starr, Marshall, Tex.; Dr. Chas. N. Hewitt, Red Wing, Minn.; Miss Eliza K. Miles, Thomasville, Pa.; H. W. Young, Independence, Kan.; Dr. C. H. A. Kleinschmidt, Washington, D. C.; Dr. A. W. Strickler, Scottsdale, Pa.; Caxton Agency, Cincinnati, O.; Thos. F. Goode, Buffalo Lithia Springs, Va.; Clark Bell, New York; Dr. J. S. Riggs, Redlands, Cal.; Dr. Wm. R. Finley, Altoona, Pa.; G. G. Burdick, Chicago; I. Haldenstein, New York; Dr. A. B. Storch, Ann Arbor, Mich.; Dr. Wm. A. Campbell, Ann Arbor, Mich.; Dr. J. A. Larabee, Louisville, Ky.; Dr. C. N. Fowler, Youngstown,

O.; Joseph Cummings, D.D., Northwestern University; Wells & Richardson Co., Burlington, Vt.; Dr. E. W. Bartlett, Milwaukee, Wis.; Dr. S. Solis-Cohen, Philadelphia, Pa.; Dr. Henry O. Marey, Boston; Dr. S. B. Rowe, Rolla, Mo.

PAMPHLETS RECEIVED.

Dudley, E. C., M.D., Chicago, Ill. *Pressure Forceps versus the Ligature and the Suture in Vaginal Hysterectomy.* Reprint from Gynecological Transactions.

Jarvis, William Chapman, M.D., New York, N. Y. *Notes on a Case of Nasal Caries Complicated with Meningitis. Successfully Treated by means of the Surgical Drill.* Reprint from the Medical Register.

Mason, Lewis D., M.D., Fort Hamilton, L. I. *Pathological Changes in Chronic Alcoholism.* Reprint from the Brooklyn Medical Journal.

McClellan, Ely, M.D., Chicago, Ill. *Note on Rumbold's Method of Treatment of Catarrhal Inflammation of the Upper Air Passages.* Reprint from the Journal of the American Medical Association.

Weston, Edward B., A.M., M.D., Chicago, Ill. *A New Procedure in Cases of Anticipated Complete Rupture of the Perineum.*

Weston, Edward B., A.M., M.D., Chicago, Ill. *Cases of Synovitis of the Knee-joint.*

Weston, Edward B., A.M., M.D., Chicago, Ill. *A Plea for the Use of Anæsthetics in Obstetric Practice.*

Wimmer, Sebastian Jr., M.A., M.D., St. Mary's, Pa. *Terebene: Its Medicinal Uses and Value.* Reprint from the New York Medical Journal.

Wyman, Hal C., M.S., M.D., Detroit, Mich. *The Training of Nurses.* Reprint from the Medical Register.

Eccles, R. G., M.D., Brooklyn, N. Y. *Descent and Disease.* Reprint from the Brooklyn Medical Journal.

Nelson, Wolford, C. M., M.D., New York, N. Y. *Yellow Fever. Absolute Protection Secured by Scientific Quarantine.*

Parrish, Joseph, M.D., Burlington, N. J. *Climate and Malaria.* Reprint from the Official Transactions of the Ninth International Medical Congress.

Van Bibber, W. C., A.M., M.D., Baltimore, Md. *Prevention of Yellow Fever in Florida and the South.*

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from February 23, 1889, to March 1, 1889.

Lieut.-Col. James C. McKee, Surgeon U. S. Army, is granted leave of absence for two months, by direction of the Secretary of War. Par. 13, S. O. 44, A. G. O., Washington, February 24, 1889.

Major Charles R. Greenleaf, Surgeon, will proceed from this city as early as practicable to Newport Bks., Ky., to examine and report upon a proposed change in the location of the post hospital at the new barracks now in process of construction near that post; thence to Columbus Bks., O., to examine and report upon the necessity for an addition to the hospital at that post. Par. 16, S. O. 43, A. G. O., Washington, February 20, 1889.

Capt. Charles B. Byrne, Asst. Surgeon, granted leave of absence for twenty-one days. S. O. 44, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, February 21, 1889.

By direction of the Secretary of War, Capt. William O. Owen, Jr., Asst. Surgeon, is relieved from duty at Ft. Leavenworth, Kan., and will report in person to the commanding officer, Ft. Gibson, Indian Ter., for duty at that post, relieving Capt. C. N. B. Macauley, Asst. Surgeon, who, on being so relieved, will report in person to the commanding officer, Ft. Leavenworth, Kan., for duty at that post. Par. 3, S. O. 48, A. G. O., February 21, 1889.

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ORIGINAL ARTICLES.

DOUBLE UTERUS AND VAGINA.

BY L. H. DUNNING, M.D.,
OF SOUTH BEND, IND.

In a previous paper the writer presented a summary of facts and conclusions arrived at after studying the histories of 97 cases of malformation of the uterus and vagina due to defective development of the ducts of Müller. He has since collected and tabulated the histories of 224 more cases, all obtained from what he believes to be reliable sources. These, together with the 97 reported in the former article, comprise all the cases, except a very few not at the time obtainable, to be found in the library of the Surgeon-General's office at Washington, and the writer thinks will furnish us data for arriving at correct conclusions.

The tables were originally designed for publication, but are found too voluminous; but as they contain many points of interest to the general practitioner, and some of them are at variance with statements made by writers of acknowledged authority, the writer has thought a summary of some of the facts obtained might be of value to the profession. The tables just referred to are made up from reports of 224 cases and are four in number. Number 1 is a record of 100 cases of congenital malformation of the uterus in which pregnancy occurred. In twenty-nine of the cases the vagina was double.

Table No. 2 records 20 cases in which pregnancy occurred in women having double vaginae while the uteri were of normal development.

Table No. 3 relates to malformations of the uterus where pregnancy never occurred. There are 90 cases recorded thirty-five of which are associated with double vagina. Lastly table No. 4 is a record of 12 cases of non-pregnant normal uteri each one associated with a double vagina. In this paper, chiefly for the writers convenience, he will follow the line of study indicated by these tables.

The term double uterus, as in the former paper, is used to include all congenital malformations of the uterus described by Todd¹ as uterus

bipartitus, uterus unicornis, uterus bicornis, and uterus bilocularis. By accepting the anatomical description of this author all the various subdivisions may be easily included as these of our general classes.

The comprehensive term, double vagina, is intended to include all vaginae divided into two parts by an antero-posterior septum, whether complete or incomplete, whether the vaginae are of equal or unequal size, or one patulous and the other occluded.

Double vagina has heretofore received little consideration. It is hardly of less importance clinically than double uterus, and then the malformations of the uterus under discussion are more frequently associated with a double than a single vagina. Of the 270² cases the writer has studied, 144 or 53¹/₈ per cent. were associated with a duplex condition of the vagina, and furthermore, this duplex condition of the vagina sometimes gives rise to many distressing symptoms and in a few cases has been the cause of the death of the patient. Frequently it has interfered with coition, menstruation and labor so that operative procedures have been required.

The writer has purposely abstained from theoretical discussions, leaving that for some future occasion, and has confined himself to the historical, clinical and statistical study of the subject.

First, then following the line of study as indicated in his description of the tables above, he has to present some facts relative to 100 cases of pregnancy, gestation, and delivery. Tables A, B and C are sufficiently plain as to require no explanations.

The following facts regarding twin and triplet pregnancies are found, viz.: Fifteen women were pregnant of twins seventeen times. The forms of the uteri were as follows: Bicornis, vagina single, 10 women pregnant 11 times; bicornis, vagina double, 2 women pregnant 2 times; bilocularis, vagina single, 3 women pregnant 4 times.

One woman four twins twice and triplets twice. This woman had a bicornute uterus with double vagina, and died of rupture of the uterus in the last labor.

It is pertinent to enquire what are the dangers

¹Todd's Cyclopaedia of Anatomy and Physiology, Vol. v. p. 678.
²Cases in the former article included.

TABLE A—*Showing facts regarding pregnancy in the different forms of double uterus and vagina.*

FORM OF MALFORMATION.	No. women pregnant	No. pregnant	No. Natural deliveries.	No. artificial deliveries.	No. not stated	Abortions or miscarriages	No. of deaths of mothers.	REMARKS.
Uterus double, vagina single.	71	161	122, or 75.5 %	22, or 13.6 %	3	22, or 13.6 %	20, or 28.1 %	
Uterus double, vagina double.	20	85	36, or 40 %	17, or 26 %	22	10, or 16 %	8, or 27.5 %	
Details as to classes under the same heads as above.								
Uterus bipartitus, vagina single.	3	7	4	2	1	1	1, or 33.3 %	
Uterus bipartitus, vagina double.	1	1	1					
Uterus unicornis, vagina single.	3	6	4				3, or 100 %	
Uterus bicornis, vagina single.	42	120	80	11	4	23	11, or 26.1 %	26 women had natural deliveries, 10 women had artificial deliveries, 1 missed labor, 10 women miscarried.
Uterus bicornis, vagina double.	19	50	34	10	1	13	6, or 31.5 %	Number of women who miscarried, 8.
Uterus didelphys.	4	4		2		2		These cases were included in the class immediately above.
Uterus bilocularis, vagina single.	18	39	34	4			5, or 27.6 %	Number of women having natural deliveries, 14.
Uterus bilocularis, vagina double.	8	19	14	5	1		2, or 25 %	Number of women having natural deliveries, 3; pregnant when seen, 1.

TABLE B—*Showing the number of deaths, and the cause thereof, as a result of pregnancy and delivery in double uterus and vagina.*

FORM OF MALFORMATION.	No. of Deaths	Septicæmia	Puerperal Fever	Peritonitis.	Hæmorrhage. Post-partum.	Hæmorrhage from vicious resection of the Placenta.	Collapse.	Hæmorrhage. Placenta prævia.	Rupture of the Uterus.	REMARKS.
Uterus bipartitus, vagina single.	1								1	
Uterus unicornis, vagina single.	3			1					2	The death from peritonitis followed a normal delivery.
Uterus bicornis, vagina single.	11	1	1	1	1				4	Puerperal endometritis, 1; pneumonia, 1; eclampsia, 1; arterial embolism, 1.
Uterus bicornis, vagina double.	6	1		2			1			Rupture splenic abscess, 1; not stated, 1.
Uterus bilocularis, vagina single.	5				1	1		1	1	1 from metro-peritonitis, and 1 polypus of the heart.
Uterus bilocularis, vagina double.	2			1					1	1, eclampsia during labor.

TABLE C—*Showing the means employed to effect delivery where artificial means were employed.*

FORM OF MALFORMATION.	Number of Cases.	Forceps.	Turning.	Laparotomy.	Cæsarean Section.	Incision of Septum.	Cephalotripsy.	Manual Delivery.	REMARKS.
Uterus bipartitus, vagina single.	2	2							
Uterus bicornis, vagina single.	11	4	2	1					Fœtus removed piecemeal, 1; not stated, 3.
Uterus bicornis, vagina double.	10	1	2				1	1	Fœtus removed piecemeal, 1; accouchement force, 1; not stated, 3.
Uterus bilocularis, vagina single.	4	1	1		1				Croche, 1; 1 on account of abnormal position of uterus.
Uterus bilocularis, vagina double.	3				1	2			Cæsarean section was done after death of mother from eclampsia.

to be feared from pregnancy occurring in those forms of malformation of the uterus? In the first two forms, viz.: bipartitus and unicornis, rupture of the uterus. In the first on account of the defective development of uterine tissue, its walls may not develop as the period of gestation advances. They are prone rather to dilate as the embryo grows and finally reach a point where they

are not sufficiently strong to resist the pressure from within and rupture. In the second form we have three elements of danger either one of which may lead to rupture of the uterus.

1. The rudimentary horn may become pregnant and rupture from the same cause as mentioned in the preceding paragraph, or the fœtus attaining full growth may find no way of escape

from the uterus and a rupture of the organ occur as a result of labor-pains.

2. The unsymmetrical development of the uterine cornua predisposes it to rupture sometime during the period of gestation or in labor.

3. The oblique position in the pelvis in which the horn develops may remove the axis of the uterus from that of the vagina and thus render labor not only difficult but natural labor impossible, and here rupture may result from long continued pressure of some portion of the fœtus upon the uterine wall conjoined with the violent contractions of the uterus in its efforts to effect delivery. The last mentioned element of danger is probably more theoretical than real, for the writer has been unable to find any reported cure of rupture of the single horned uterus where the pregnancy occurred in the developed horn, while he has the histories of two cases where rupture resulted from impregnation of the rudimentary horn.

In uterus bicornis troubles following delivery are the most prolific causes of the death of the mother. This may be accounted as due to the large number of difficult labors and the imperfect drainage of the uterus following labor on account of its unfavorable position in the pelvis. Rupture of the uterus is next in frequency as a cause of death. One case occurred because of the impaction of the head of the fœtus and the prolonged effort of nature to expel it, and in three cases where each fœtus developed in a rudimentary horn.

Hæmorrhage was the chief cause of death in patients having uterus bilocularis. Vicious attachment of the placenta and irregular uterine contractions subsequent to labor are mentioned as the predisposing causes of the hæmorrhage.

As a second division of our subject we may consider those cases having a vaginal septum with the uterus normal and all the subjects pregnant. Here we have the histories of 22 cases. The vaginal septa presented various forms and shapes and are described by reporters as crescentic, pyramidal and complete antero-posterior vertical septa. When complete they extend from the introitus vaginæ to the cervix uteri or to the upper extremity of the vaginal tube to one side of the cervix. The septum is covered by mucous membrane upon either side and continuous with the mucous membrane of the vagina. Between the two layers of mucous membrane are submucous and cellular tissue, the latter of which serves to fasten it in its position antero-posteriorly in the vagina. Considerable muscular tissue is sometimes present between the layers of mucous membrane, and at times fibrous tissue predominates. Any part of the septum from the vaginal entrance to the cervix of the uterus may be deficient, so that the forms and shapes already mentioned may be assumed. In this class we have twenty-two

women pregnant twenty-eight times. One woman was pregnant several times, with every labor normal. The septum interfered with labor in 12 instances. Of these the septum was torn through in labor in 4, incised in 7, and severed by a thread in 1. In 3 cases considerable hæmorrhage followed the incision. There were no deaths. Seven patients had normal deliveries. In the artificial deliveries the following means were used, viz.: Crochet, 1; delivered through the rectum after incision, 1; forceps, 4; and manual change of position of the child in 1 case.

Our third division relates to congenital malformations of the uterus where the vagina is single or double and pregnancy has never occurred. Here we have the histories of 90 cases. The chief interest the writer has found in the study of this class of cases has been in the percentage of each form of malformation found, the departures from the normal in the anatomical condition, the anomalies of menstruation incident to them, and lastly, the diseased conditions found to exist. There were of the various forms reported: Of uterus bipartitus, vagina single, 7 cases, vagina double, 1 case; of uterus unicornis, vagina single, 11 cases, vagina double, no case; of uterus bicornis, vagina single, 32 cases, vagina double, 28 cases; of uterus bilocularis, vagina single, 5 cases, vagina double, 6 cases. Total—vagina single, 55 cases; vagina double, 35 cases. In uterus bipartitus the vagina was found to be normal in but a single case and double in one. In all others it was either short, a cul-de-sac, or entirely absent. The adnexa were found normal in 3 cases, and either rudimentary or imperfectly developed in others. The uteri varied in size, shape and development. In some cases they were simply rudimentary without a canal, in others without any communication with the ovaries through the Fallopian tubes. In one case the uterus was sufficiently well developed to admit of normal menstruation, and in this instance the reporter states there were three ora, and that the menstrual fluid escaped from all of them simultaneously.

Concomitant to an imperfectly developed condition of the uterus and vagina was a like condition of the adnexa. Sometimes the imperfections were found in the tubes and at other times in the ovaries. The anomalies of menstruation were dependent upon those of the organs already described. The nearer approach to perfect development of all the organs involved the more nearly normal was the performance of the function. Menstruation was absent in three cases, vicarious in one where there was no uterine mucosa, but normal tubes and ovaries. In one in which there was no normal flow, but distressing molimina, the latter entirely disappeared on removal of the ovaries.

There does not seem to have been any record of a special proneness to any one disease.

In uterus unicornis we find no instances where

this malformation was associated with a double vagina. The most marked feature to be found in this class is an occasional rudimentary horn, also a rudimentary condition of the tube and ovary upon the side in which the cornus is absent. A number of cases of entire absence of the tube, ovary and kidney upon the imperfect side are found. A marked deflection of the one-horned uterus toward the side in which it develops frequently exists. But few details are given respecting menstruation, but what are, show that this important function is performed irregularly or is entirely absent.

Of the 90 cases of women who have never conceived and who had malformations of the uterus of the forms under discussion, 60 of them were of uterus bicornis. Here is the middle ground between the normal and the greatest deviation from the normal, and here will centre the chief interest of the practitioner. In the 28 cases in which the duplex vagina occurs will be found nearly every variation incident to this anatomical abnormality. In some instances the vagina is divided into two parts, equal or unequal, by a complete septum. Atresia of one side occurs in one instance, and in several instances a partial septum incompletely divides the tube.

There are 15 instances of complete septum and 4 in which it is incomplete, 1 of atresia of one vagina, and 8 in which it is not stated, but is probably complete. As great a variation in the form of the uterus was noted. Todd's accuracy in his description of this form of malformation is here verified. No cases of uterus didelphys are recorded in this table. The histories from which the table was compiled are too meagre, in some instances, to enable the compiler to accurately state the number in each variety in this class; nor, indeed, is it important.

It was observed that sometimes the os was single and sometimes double, and that in quite a number of instances there was atresia of one os and a resultant hæmatometra. A rudimentary horn was not infrequently present, and when found it had usually as concomitant a rudimentary ovary and tube. The facts regarding menstruation are not sufficiently complete to be entirely satisfactory, yet there are some points of interest. Sometimes the flow proceeds from both sides of the bicornute uterus simultaneously, and at other times the uteri alternate in the performance of this function; when they do menstruation occurs either every two weeks or every four weeks. In the light of these facts who can question the possibility of the impregnation of one horn when the other horn contains an ovum in process of development.

Hæmatometra is met with more frequently in this class than in all others. Cystic degeneration of the ovary seems to be the only disease which occurs with more than usual frequency.

In uteris bilocularis there is the least departure from the normal development. The adnexa are less frequently rudimentary or absent, the external genitals more frequently well developed and the performance of the menstrual function is not so often imperfect or difficult.

There are recorded in this table 6 cases in which in this class the vagina is duplex. In all of them the septum was complete and no instance of atresia of any one of them found. There are 6 cases in which there are two ora, 3 having two cervixes, 2 of single os, 1 of atresia of the os, and 2 not stated. One case had two cervixes and a single os. Here a hæmatometra developed. There is quite a variation in the external form of the uterus. Sometimes no departure from the normal could be detected in the body of the uterus by conjoined manipulation, in others a groove marked the line of division of the organ, and in others there was a depression at the center of the fundus. The vaginal touch and uterine sound proved the most valuable means of diagnosis.

In but four instances are there details given of the state of the menstrual function. In three of these it was performed normally, and in one normally, except that it was painful. The following morbid conditions were found: 1 of cyst of Fallopian tube; 1 gonorrhœa with resulting parametritis; 1 cancer of the uterus.

The fourth table I have compiled and to which I wish to refer to here, is made up of the histories of 12 cases of non-pregnant normal uteri associated with double vagina. One vagina was a cul-de-sac in seven instances. Inflammatory disorders of the uterus and vagina existed in six instances. The septum was incised in three, and severed by the galvano-cautery in two, and all recovered. Disordered menstruation was present in 3 cases. The uterus was normal in all cases but one and in that one it was undeveloped.

The following is a statement of the number and per cent. in each form of malformation, including those reported in my former paper, viz.: Uterus bipartitus, 14 cases, or 5.2 per cent. of all cases; uterus unicornis, 18 cases, or 6.7 per cent. of all cases; uterus bicornis, 175 cases, or 65.3 per cent. of all cases; uterus bilocularis, 68 cases, or 22.7 per cent. of all cases; unclassified, 2 cases. Total number of cases 270. Number of cases of double uterus and vagina, 144, or 47.3 per cent.; number of cases of double uterus, 126, or 41.4 per cent.; number of cases of double vagina, 34, or 11.1 per cent. Total number of cases, 304.

Hæmatometra.—Twenty cases in all are recorded in the lists we are studying. One was found two weeks after delivery and 19 in cases in which pregnancy never occurred. In but a single instance do we find it associated with hæmatocolpus. In one instance nature after a time performed a cure, a perforation occurring in the septum between the cornua so that the retained fluid escaped

into the pervious uterus and thence found its way into the vagina. A perfect recovery took place.

No instances are recorded where hæmatometra or hæmatocolpus was discovered where there was double vagina alone, and but a single case occurred in a woman who had ever been pregnant. This woman had borne twelve children, the last one three weeks before admission into the hospital. Upon examination a hæmatometra was discovered, opened by the finger-nail and the patient recovered. One case of rupture of the uterus is recorded, resulting from hæmatometra. A hæmatometra had been discovered and punctured and part of the fluid evacuated. Five days later the patient died suddenly of rupture of the uterus. Of the cases of hæmatometra recorded 19 were of uterus unicornis, and 1 of uterus bilocularis. Seventeen of them were operated upon, 9 died and 8 recovered. The means employed, and results, are as follows: 6 cases of puncture with trocar, 5 deaths, 1 recovery; 2 cases trocar first and bistoury later, 1 recovery and 1 death; 5 cases incision with bistoury, 4 recoveries and 1 death; 1 opened with finger-nail, recovered; 1 opened with sound, died; 2, means not stated, 1 died, 1 probably recovered; 1 case nature cured. The causes of death in 6 cases is states as peritonitis; 1 empyæmia; and 2 not stated. In one case imperfect drainage resulted in suppuration, free drainage and irrigation effected a cure. In another puncture was followed by fever, which was quickly relieved by free incision.

Hæmatocolpus is found in three instances, once occurring with hæmatometra, the details of which I am unable to obtain. A second one is found with no details. The third case was one of acquired hæmatocolpus. It was tapped four times. After the last tapping a peritonitis developed and the patient died.

Rupture of the Uterus.—Nine cases of rupture of the uterus are recorded. Six were of uterus bicornis, two of uterus unicornis, and one of uterus bipartitus. All but one occurred as a result of pregnancy. The exceptional case was one of uterus bicornis, in which there was atresia of one horn and a hæmatometra developed. It was punctured and the menstrual fluid allowed to escape. Five days later the patient was suddenly seized of a violent pain, which lasted some time, when she had the feeling as of something giving way. Death soon followed and the autopsy revealed a rupture of the uterus of the horn in which the menstrual fluid had been retained.

Of the 8 cases pregnant in which rupture occurred, in 3 it was the first pregnancy; in 1 the twelfth pregnancy; but the first in the horn ruptured one previously referred to; 1 in the fifth pregnancy and first in the horn ruptured; 1 in the fourth pregnancy and first in the horn ruptured; 1 not stated; 1 in the fifth pregnancy, that of triplets.

In the last case the rupture occurred in the forty-first hour of labor, all the preceding labors having been difficult. The rupture in this case was doubtless due to the head having been in such a position that it could not advance.

The immediate cause of death was peritonitis in 4 cases; hæmorrhage in 3; not stated in 2.

No operative measures were employed in 6 cases. In 2 the children were delivered by forceps. Every patient in which the rupture occurred died. No operative procedures were resorted to to save the patients after the rupture occurred.

The records show a case in which laparotomy was done to remove a supposed tumor. A pregnant rudimentary horn was found. A month later the abdomen was opened, the horn extirpated and the patient made a good recovery. In another instance pregnancy occurred in a rudimentary horn, symptoms of labor appeared and passed away. Six months later the woman died of plithisis, when autopsy revealed the true condition. The foetus had been dead some time and was partly absorbed.

These two cases furnish us a hint of the possibilities of cure in laparotomy, and in electricity to produce death of the foetus. It is not surprising that the expectant treatment was adopted in the majority of the cases of rupture; for they occurred before the benefits of laparotomy were fully understood, and some of them, indeed, before this procedure had ever been employed for the relief of similar conditions. Then, too, it must be remembered, the true nature of some of the cases was only determined upon autopsy. The question will naturally arise as to the operative measures to be adopted when a pregnant rudimentary horn is discovered. The solution of this question will doubtless depend upon the anatomical condition present and the time in the period of gestation it is found. If the examiner can make out clearly a pregnant rudimentary horn with a long pedicle, and in the early months, laparotomy will doubtless be generally chosen. Should the rudimentary uterus be closely attached to its fellow then it may be necessary for the operator to choose between Porro's operation and the use of electricity to produce the death of the foetus.

The highly favorable results shown by recent writers attending the use of electricity will strongly tend to popularize the procedure if indeed not to stamp it as the one above all others to be employed in all cases of pregnancy of the rudimentary horn and of extra-uterine pregnancy in the earlier and middle months. After the rupture of the uterus and the discharge of its contents into the abdominal cavity laparotomy affords the only hope of recovery. When the full period of gestation is reached without a rupture, and labor is attempted, the same rules must govern the treatment as in tubular pregnancy, and when rupture occurs during labor from obliquity of the uterus,

impaction of the foetal head, or from non-development of some portion of the uterus, and the os be pervious and in communication with the vagina, the same procedures should be adopted as in rupture of the uterus occurring where there is no malformation. Simon's case¹ shows one point of particular interest. A rudimentary uterus having no communication with its fellow became pregnant and ruptured. The autopsy revealed an absence of a corpus luteum in the ovary corresponding to the pregnant horn, but a fresh one in the ovary of the opposite side. This instance strongly supports the theory of the migration of the ovum, either before or after it has been pierced by the spermatozoa, to the mouth of the tube upon the opposite side and thence through the tube to the rudimentary horn.

NASAL MYXOMATA.

Read before the Chicago Medical Society, September, 1888.

BY W. E. CASSELBERRY, M.D.,

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Nasal polypus is an ancient subject, but considering its frequency, the discomforts and dangers to which it subjects the sufferer, the difficulty

of such associated maladies together with the polypi is the "key-note" to the proper and effective handling of the patient. Recognition of the exact points of origin of the neoplasms is essential to a clear understanding of their etiology and treatment. The outer wall of each nasal cavity is rendered especially uneven by the three turbinated bones, their margins of attachment being horizontal one above the other, which leaves intervening spaces, called respectively, the inferior meatus, between the inferior turbinated body and the nasal floor, the *middle meatus*, between the middle and inferior turbinated bodies and the superior meatus, between the superior and middle turbinated bodies. In the outer wall of the middle meatus is the ethmoidal fissure or *hiatus semilunaris*—a crescentic opening about two millimetres in width and two centimetres in length, its

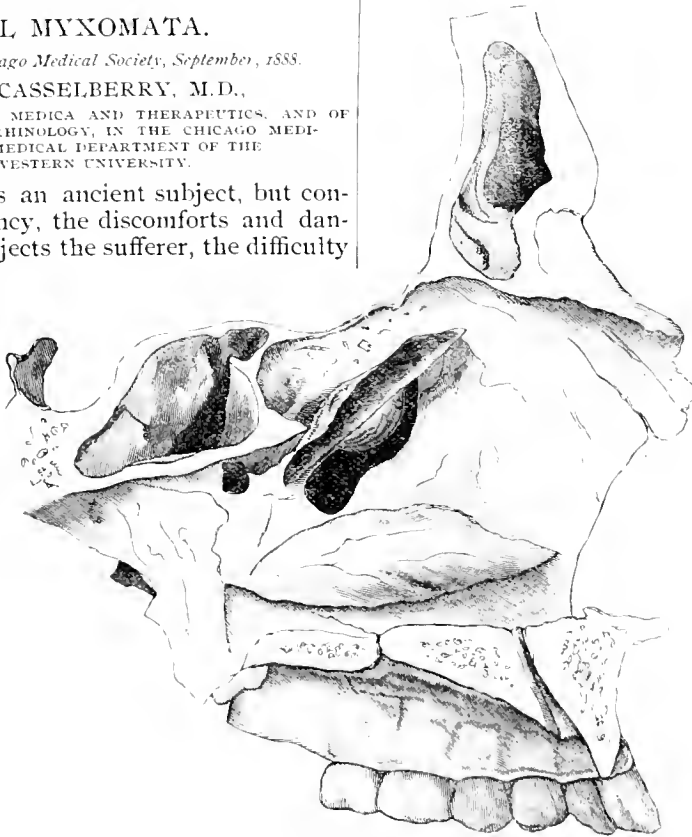


Fig. 1.—Representing the outer wall of the left naris with the middle turbinated body turned upward to show beneath the hiatus semilunaris, to the edges of which polyps are frequently attached.

of radical extirpation and the consequent liability to recurrence, it may well be reviewed in the light of modern methods.

The disease does not exist as a primary affection, but is always associated with some other nasal malady which stands to it in the relation of cause or as a complication. Indeed the removal

convexity being directed downward and forward, (Figure 1.) The antero-inferior boundary of the fissure is a sharp edged ridge which, from its hook-like curve, is termed the unciform process of the ethmoid bone. The postero-superior boundary is formed chiefly by the *bulla ethmoidalis* which is an ethmoidal cell with its wall bulged toward the septum and downward. The

¹ Zeitschrift für Geburtshülfe und Gynäkologie, 1877-78.

fissure itself is an opening into the whole length of the side of the *infundibulum*, which is an elongated crescentically curved funnel shaped cavity communicating through its upper and smaller end with the frontal sinus and through its lower and larger extremity with the antrum of Highmore, entering this cavity in conjunction with the main opening into it from the middle meatus—the *ostium maxillare*.

Above the bulla ethmoidalis, between it and the top of the middle turbinated bone, is another, smaller, fissure which leads into the ethmoid cell of the bulla.

All of these parts lie high up, beneath the middle turbinated bone which hangs down over them like a curtain.

Well developed myxomata rarely spring from flat surfaces. They arise wherever there is a free edge covered by mucous membrane whence they hang by a pedicle. Zuckerkandl (*Anatomie der Nasenhöhle* S. 64 *et seq.*), cited by Mackenzie,¹ has furnished the most definite information of the exact points of origin of nasal myxomata in the publication of the post-mortem observation of forty-two distinct growths in which the deep origin was ascertained by the gradual removal of the bony parts. Of these forty-two growths, twenty-nine grew from the middle meatus, including two from within the *infundibulum*, four from the middle turbinated body, three from the superior meatus and the balance of six scattering as, from the Antrum of Highmore two, *ostium frontale* one, *ostium sphenoidale* one, *ostium ethmoidale* one, and upper tubinated body one.

Of the twenty-nine growing from the middle meatus, seventeen were attached to the edges of the *hiatus semilunaris*, the crescentic fissure just described. These observations are in perfect accord with the precise clinical observations recently rendered possible through the extension of our field of vision within the nasal fossæ by the retracting power of cocaine.

It is thus shown that *two-thirds* of all nasal myxomata originate from the middle meatus, beneath the middle turbinated body, and that approximately *two-thirds* of this number take origin from the edges of the *hiatus semilunaris*.

With this knowledge and judging from the superficial position of the neoplasm and the direction of its pedicle toward attachment we can be reasonably certain of the deep point of origin even when such is not visible and can often destroy the very root of the growth by insinuating a properly curved cautery point-electrode to the spot.

The attachment, wherever located, may involve only the mucous and submucous tissue, or it may extend too and involve the underlying bone. The nasal mucous membrane consists of two layers: a superficial mucous stratum, and a

deep fibrous layer, which latter has the position and functions of periosteum or perichondrium. As first asserted by Stoerk² mucous polypi or myxomata, which are connective tissue growths, arise chiefly from the mucosa or superficial layer included with which is a connective tissue sub-mucosa, but in parts of the upper or olfactory tract the mucous and fibrous (periosteal) strata are closely adherent and it is easy to conceive of the attachment penetrating subsequently to the immediately adjoining periosteum (fibrous layer) and thence to the bone.

Furthermore, it is asserted by Woakes³ that "these two layers constitute a muco-periosteum which unseparated, dips into the spongy structure of the bone and lines the cells and their osseous dissepiments." In this way the mucous membrane element is introduced into the very interior of the bone and hence may arise myxomata from within the cancelli of the bone of course having bony attachments. Being connective tissue growths it is entirely possible also they may at times originate directly from the periosteum without the intervention of the mucosa although a fibroma or at least a fibromyxoma is more likely then to result.

Etiology.—The most common complication acting also in a causal relation to nasal polypus is hypertrophic rhinitis. Hyperæmia and all which tends to cause congestion will excite hyperplasia and predispose to the formation of distinct neoplasms. Various factors may influence the perversion of a simple hyperplasia of the mucous elements into myxomatous formations.

Hereditary or constitutional diathesis, of a nature too subtle for positive demonstration, may predispose certain families or certain members of a family, as is the case with other neoplasms. It is probable, however, that more frequently variations in the physical conformations of the nostrils determine the involvement of particular areas in the hypertrophic process which occurring at these points is prone to assume the myxomatous form.

On flat surfaces, *e. g.*, the inferior turbinated body, true polypi rarely develop, but sessile polypoid excrescences—minute myxomatous neoplasms, called "polyp-buds," are a common perversion of the hypertrophic process in this locality. These show little disposition to become fully developed polypi. But when hyperplasia occurs upon a free edge whence portions of mucous membrane become pendulous the conditions are favorable to the production of a circumscribed œdema. The pendulous position with gravity simply favors the exudation of a maximum of mucin containing serum with a minimum of connective tissue cell proliferation. Consequently whatever favors hypertrophy over such free edges, as the borders of the *hiatus semilunaris*, middle turbinated

² Die Krankheiten der Nase, 1880, S. 99.

³ Nasal Polypus, etc., in relation to Ethmoiditis, 1887, p. 9.

¹ Diseases of the Throat and Nose, Vol. ii, p. 362.

body, etc., acts as a direct cause of mucous polypus. This area is less frequently involved in the hypertrophic process than the lower turbinated bodies, but the same causes, *e. g.*, repeated, acute rhinitis, dust or vapor irritants may affect it either directly or through extension by continuity of surface.

Stenosis, whether induced by hypertrophy of the inferior turbinated bodies, septal deflections or excrescences, results in defective drainage. Mucopurulent secretion, imprisoned and decomposing in the middle meatus and around the middle turbinated body, excites irritation and furnishes the most favorable soil for polyp growth.

Very narrow nostrils, because more readily stenosed, are predisposed, in this manner, to myxomata, and peculiar curvatures or deformities of the septum and middle turbinated bodies by obstructing drainage have a like effect. In one instance, a congenitally deformed middle turbinated bone encroached tightly upon the septum and even pushed it far to the opposite side, preventing drainage from above and causing irritation of surrounding parts.

The influence of hypertrophic rhinitis on the etiology and treatment is well illustrated in the following history.

Miss T—, æt. 10 years. Total obstruction of the left nostril of one year's duration.

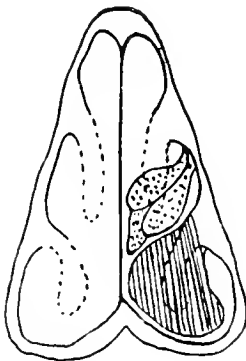


Fig. 2.

Status Præsens.—Examination July 16, 1887. Enormous hypertrophy of the inferior turbinated bodies. Numerous polypi are closely impacted between the turbinated bodies and the septum they proceed from the middle meatus and are continuously imbedded in a mass of thick viscid mucopurulent secretion. (Figures 2 and 3.) The polypi seemed secondary to the hypertrophic rhinitis and defective drainage. On the right side hypertrophy was present but was insufficient to obstruct the drainage and no polypi were visible.

Operations first by the cold wire snare resulted in the removal of numerous growths, during re-

peated sittings, but without improvement. The polypi developed as rapidly as removed, springing up like mushrooms in the soggy soil, maintained by the imprisoned secretions. The inferior turbinated body was next cauterized along its entire extent being reduced in front where it especially interfered with vision, instrumental passage and drainage, almost to a rudiment. One

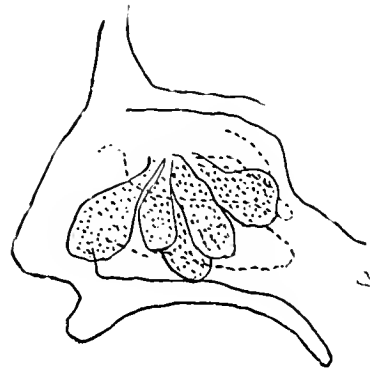


Fig. 3.

was enabled then to trace the tumors to their exact seat of attachment in the immediate vicinity of the *hiatus semilunaris* and to thoroughly eradicate them by reaching that position with a cautery point. No recurrence. Cure complete.

This patient was but 10 years of age. Myxomata are said to be rare before puberty but are probably only relatively as rare as persistent rhinitis at the same period.

Again, Mr. P—, æt., 45, catarrhal symptoms

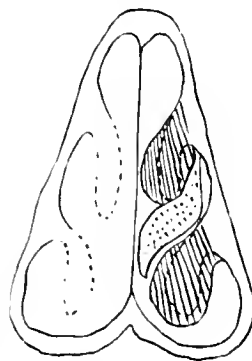


Fig. 4.

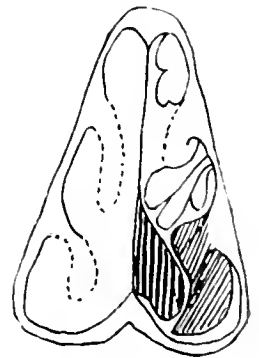


Fig. 5.

for some years; obstruction of the left nostril for one year.

Status Præsens.—Examination March 18, 1887. A single polypus proceeds from the left middle meatus and is traceable in the direction of the *hiatus semilunaris* to the edge of which it is evidently attached. (Figure 4.) The middle turbinated body is so hypertrophied as to reach across

to the septum and to obstruct drainage from the middle meatus even after removal of the polypus.

The myxoma was removed by the cold wire snare and its base cauterized by the insertion of a flat knife-electrode upward beneath the middle turbinated body to the point of attachment. Subsequent reduction of the hypertrophic rhinitis and the establishment of proper drainage. No recurrence.

The case of Mr. M—, æt. 25 years, referred by Dr. N. S. Davis, Jr., is remarkable on account of the multiplicity of the neoplasms and the gravity of the consequences.

Both nasal fossæ were literally packed with myxomata and fibro-myxomata. Complete suspension of nasal respiration for years; stupidity of facial expression incident to mouth-breathing; pharyngitis and predisposition to acute bronchitis and asthmatic paroxysms; total incapacity for business usefulness. Previous courses of treatment had failed.

After removal, one by one, of a number of polypi, the inferior turbinated bodies were found to be greatly hypertrophied. They obstructed respiration and drainage, interfered with the transmission of light to the superior and posterior parts of the fossæ and prevented the passage of instruments.

After reduction of these bodies by the galvano-cautery snare and knife electrodes it was possible by the same means to extirpate the bases of the numerous myxomata, which originated from the middle meatus, middle turbinated body, and from the superior meatus descending posteriorly. Result perfect. Examination after one year shows not the slightest recurrence, and nasal respiration is always free.

Septal excrescence is another complication acting also in a causal relation to nasal myxomata. These deformities of the septum are usually found on the sutural lines of the component bones and cartilages, and are osseous or osseo-cartilaginous in structure. The most frequent location is the sutural line of the vomer, and superior maxilla and cartilaginous septum just within the anterior nares and close to the floor of the nose. This, as well as other conditions, finds illustration in the following case.

Mr. B., æt. 32 years, has suffered from nasal obstruction with polypi since 1872. In 1873, and from 1875 to 1880, a number of unsuccessful attempts at removal were made by the old method of "going it blind" with a pair of forceps. Operations by the cold-wire snare and forceps under illumination followed, in 1881, 1885, and 1886.

Status Præsens.—Examination July, 1887. Several myxomata spring from beneath the left middle turbinated body, and from near the roof of the left naris. Both inferior turbinated bodies are hypertrophied, and on the left side a prominent

spur or excrescence projects from the septum, meeting the turbinated body and causing obstruction of the left nostril independently of the polypi. (Fig. 5.) Polypi exist also on the right side, and large myxomata, together with polypoid degeneration of the septum and of the posterior ends of all the turbinated bodies occlude the posterior nares. (Fig. 6.) There is necrosing ethmoditis of Woakes, dead bone and fetid discharge.

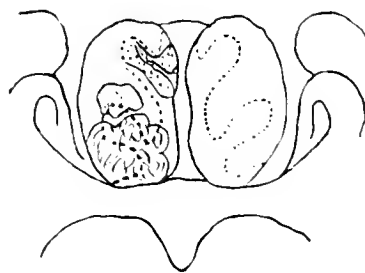


Fig. 6.

The septal excrescence obstructs respiration, prevents drainage, interferes with vision, and renders it impossible to pass instruments to the seat of disease. It was easily removed by a saw which I found convenient to devise for the purpose. The floor of the nose just within the anterior nares is not a perfectly horizontal plane, but is curved, with the convexity directed downward. The septal deformity is close to the floor and conforms to this curve, consequently a straight saw often cannot be introduced, while one curved, likewise, in conformity to the floor of the nose meets with no obstruction. (Figs. 7, 8, and 9.) The

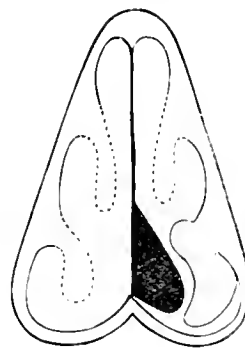


Figure 7.

teeth of this saw, also, cut upon the pull and not upon the push, an advantage, for the reason that on the push it is sometimes necessary to insinuate its distal extremity carefully between parts while on the pull its passage is free. Next followed reduction of the hypertrophies, the polypi being at the same time removed as fast as access could be gained. A fine-point electrode was insinuated beneath the middle turbinated body to one seat of origin, the

edge of the *hiatus semilunaris*, and finally, having tied the velum forward, a properly curved point electrode was introduced through the nasopharynx and all remaining roots and small polypi which were located high up and posteriorly in the region of the superior turbinated body were destroyed.

One year after cessation of treatment Mr. B. writes as follows: "I have remained well, as far as any return of the polypi is concerned. I enjoy free respiration through both nostrils. On breathing with force through both nostrils I am unable to feel the slightest obstruction."

largement of the anterior end of the middle turbinated body. Polyp-buds may form over the surface and ultimately develop into myxomata, or a center of proliferation of the mucous element within the body of the bone may so develop as to cleave asunder the middle turbinated body, leaving a fissure down its center from which will protrude the polypi—a condition of which the following case is an illustration.

Miss P., æt. 20. Catarrhal symptoms for years.

Status Præsens.—Examination Sept. 11, 1886. Atrophic naso-pharyngitis and horribly foetid in-

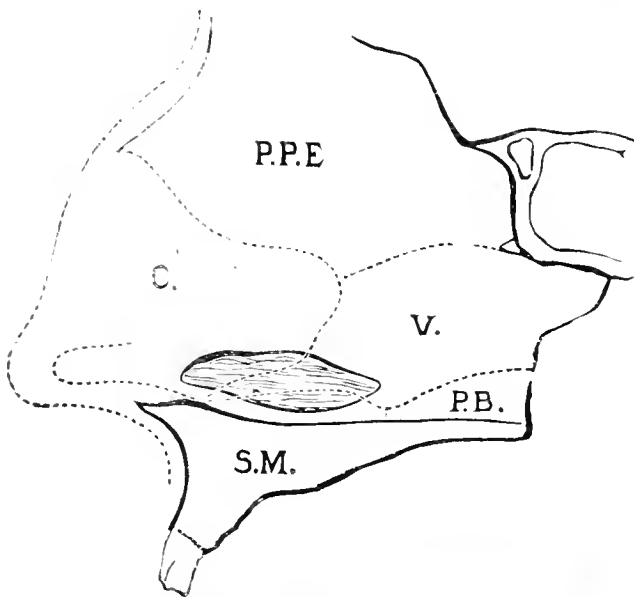


Figure 8.

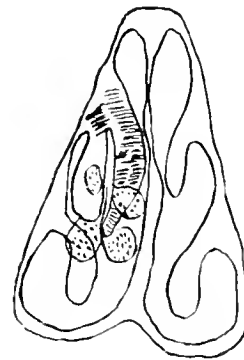


Fig. 10

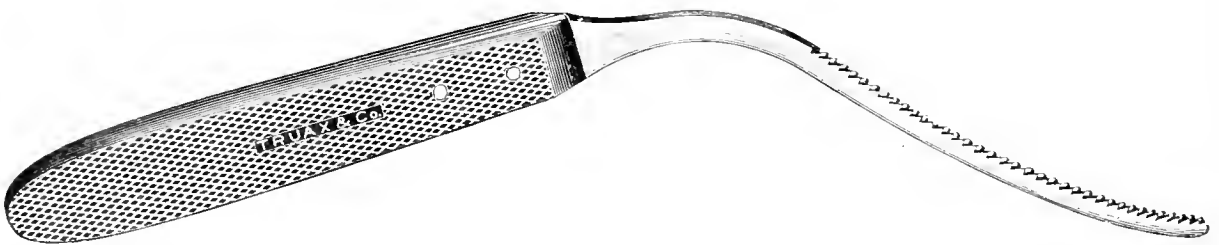


Figure 9.

Necrosing ethmoiditis of Woakes¹ also figures as a persistent cause and complication of nasal polypus. It involves the nasal tributaries of the ethmoid bone, especially its process the middle turbinated body. The *mucoperiosteum*, already described as dipping, unseparated, into the spongy structure of the bone, undergoes inflammation, which cause the mucous element to proliferate in the direction of myxomatous formations and the periosteal stratum, also inflamed, to result in necrosis of the subjacent bone.

The earliest appearance of the disease is an en-

crustation. The right middle turbinated body is much enlarged and has the appearance of two bodies because of the cleavage; (Fig. 10.) From this cleft protrude several small polyp, or polyp-buds, and others exist over the surface and in the immediate vicinity. A fine probe inserted into the cleft detects dead bone.

The removal of the entire necrosing turbinated body is sometimes practiced in such cases. In this instance it sufficed to cauterize thoroughly, introducing a knife electrode far up into the cleft and in like manner destroying diseased parts of the surface.

¹ Nasal Polypus, etc., In Relation to Ethmoiditis 1887.

Under this and other appropriate treatment, the symptoms have been so ameliorated as to cease to be troublesome, and the polypi have not recurred. Necrosis once established, however, becomes an important factor in the persistence of inflammation of the soft parts and prolonged treatment may be necessary to eradicate the disease.

Necrosing ethmoiditis may exist without polypus, and polypus without necrosis. The assertion of Dr. Woakes that "when polypus exists necrosis is also present," is not confirmed by my experience, inasmuch as in the majority of the cases herewith reported the most careful search failed to detect necrosis.

Still another complication is illustrated by the case of Miss McC., referred by Dr. E. J. Gardiner. Multiple polypi occlude both nares, and extend backward to the naso-pharynx. An *hypertrophic tonsil* was necessarily abscised before access for light and instruments could be gained. Hypertrophic rhinitis also was reduced by the usual means. The case is still under treatment, but looks favorable to a permanent recovery.

Incrustation and infiltration of a myxoma with calcareous deposits may cause it to resemble an osteoma.

In such a case, observed in an aged person, the whole right naris above the inferior turbinated body was occupied by a fixed and impenetrable tumor. Excised portions of the growth resembled thick egg-shell, covered on its outer surface by mucous membrane and on its inner concave surface with myxomatous tissue, as if, in the course of years, the central part of the polypus had been absorbed, while calcareous deposition occurred in the enveloping membrane. The neoplasm was so firmly fixed to the nasal bones that it was deemed best to remove only a part of it, sufficient to permit of free nasal respiration. It evinces no disposition to redevelopment.

Other nasal neoplasms, by maintaining irritation and obstruction to drainage, may excite the development of myxomata. Dr. Christian Fenger⁵ has described an osteoma which after removal was found to have attached to it several polypi.

In like manner myxomata may exist in mere association with primary carcinoma of the nasal and accessory cavities. In a case seen through the courtesy of Dr. Boerne Bettman, in 1887, the right nasal cavity was filled with a soft pulsatous ulcerated mass, which involved the antrum, orbit, and other accessory chambers. Carcinoma or sarcoma was evident. When first seen by Dr. Bettman myxomata only were visible in the naris, and several were removed by a snare. It is most probable that the malignant neoplasm originated in one of the accessory cavities and while extending to the naris excited a growth of myxomata.

Of course the transition of a benign myxoma into a malignant sarcoma or carcinoma cannot be regarded as impossible, since myxomata are histologically related to sarcomata, yet cases of myxoma which even suffer repeated surgical manipulation are so common, and such apparent transitions so rare, that, in the latter case, it were more reasonable to assume that the malignant disease arose primarily and that its presence excited a contemporaneous development of myxomata, as might any other irritant.

Physical Characters.—The form, aspect and consistence of a myxoma has been compared to a grape pulp. The natural shape is pyriform, but this is often varied by pressure. When small it is sessile, but it becomes pedunculated by gravity as development proceeds, and the point where the pedicle is confounded with the tissues of attachment is known as the "root." The color varies according to vascularization from gray to yellow, and from yellow to pink and red.

Pathological Histology.—A typical myxoma or "myxoma hyalinum" resembles in structure the vitreous body of the eye and the gelatin of Wharton of the umbilical cord. Microscopically there are observed either a few roundish cells, as in the vitreous body, or scattered fusiform and stellate cells which send off anastomosing trabeculae, as in Wharton's gelatin, or both together, and these are imbedded in a large quantity of a homogeneous gelatinous mucin containing intercellular substance. Acetic acid causes opacity by the precipitation of mucin in a finely molecular state. Preparations hardened in alcohol or chromic acid give in undefined portions granular and fibrinous appearances.

Macroscopically the "myxoma hyalinum" is translucent, almost transparent, and of a pale yellowish hue.

But myxomata rarely appear in this purely typical form, the "myxoma hyalinum" being prone to transformation into allied histological structures or to be represented from the beginning by one of its modified forms. Of these the most common is the myxofibroma, which contains a greater but variable quantity of fibrous tissue. Those which are ordinarily called myxomata usually contain enough of the fibrous element to include them, strictly speaking, within the class of myxofibromata.

Multiplication of its round cells imparts to the myxoma a whiter, denser, less gelatinous and more medullary aspect, and it is then named "myxoma medullare."⁶ If the spindle cells increase the transformation is into myxosarcoma; when fat is an element it becomes a myxolipoma; so also do we have the myxochondroma. Between these various neoplasms it is sometimes impossible to draw a distinct line of demarcation.

Myxomata are connective tissue growths, and

⁵ Living and Dead Osteomas of the Nasal and Accessory Cavities. Jour. Am. Med. Assoc., Vol. xi, No. 6.

⁶ Perls, Allgemeine Pathologie, S. 247

in addition to their occurrence as nasal polypi originating from the mucous and submucous tissues of the nose, they may originate from these structures elsewhere or in the intermuscular septa, nerves, subserous fat and periosteum.

Symptoms.—The chief symptom is nasal stenosis which increases with the development in size and number of the polypi, until complete obstruction of one or both nostrils results. Mucous or muco-purulent discharge, cephalalgia, aural complications and other symptoms of a catarrhal nature, together with those incident to mouth-breathing, are observed. To quote the words of a sufferer: "It affects the sight, the hearing, the taste, and the smell of course." Spasmodic asthma, paroxysmal cough and sneezing attacks are among the reflex phenomena which are occasionally excited. For diagnostic purposes it is usually only necessary to look with a good light and to feel with a probe in order to establish correspondence with the physical characters just described, but more rarely an accurate knowledge of all pathological states is essential to a precise diagnosis.

The treatment has been outlined in the relation of the cases. It consists first in the establishment of free nasal passage for respiration, drainage, vision and instrumental manipulation, and to this end in the reduction of hypertrophied turbinated bodies, the removal of septal excrescences, hypertrophied tonsils, etc.

To reduce the hypertrophied turbinated bodies the electro-cautery, applied by means of the point, knife, or snare electrode, is the most convenient agent, although chromic acid, carefully used, will suffice. One of the best methods is to employ a rather heavy point-electrode having its end slightly "curved on the flat" toward the side to be cauterized, and to draw this, in one application, three or four times, at a little more than cherry-red heat, through approximately one inch of the length of the turbinated body, passing each time through the same line until the soft tissue is penetrated to the bony base. From three to six treatments, in different lines on each of the lower turbinated bodies, may be required. Fewer suffice for the middle bodies.

Septal excrescences are removed by the nasal saw, chisel, or burr and trephine drills propelled by the surgical engine or electrical motor. The latter apparatus is more useful for drilling away projecting edges and corners after the use of the saw than for execution of the entire operation. A large variety of nasal saws is necessary in order best to conform to individual cases.

If the septum is seriously deflected it may be necessary to correct it.

Adenoid vegetations of the naso-pharynx must be cleared away.

While this work is progressing such polypi as can be reached should be removed, and others as rapidly as access is gained. This is done by the

galvano-cautery snare, the cold snare, or fine polypus forceps, whichever seems best adapted to the individual polyp.

All operating is done under the local anæsthesia, and *retraction of tissues* produced by cocaine applied by spray in solution not to exceed 5 per cent., and on cotton not to exceed 2 per cent., and operating must cease as soon as hæmorrhage obscures the view.

But the real success of the treatment, after having gained access to the polypi, consists in tracing them to their points of attachment and in thoroughly cauterizing these so-called roots; if not at the same sitting, then at the next, remembering meanwhile the exact spot. Knowing the *hiatus semilunaris* to be a favorite point of origin, those polypi which proceed from beneath the middle turbinated body should be followed up by insinuating a fine electrode slightly curved on the flat to this point, and those which spring from the superior meatus posteriorly must be reached by a properly curved point-electrode introduced through the mouth and naso-pharynx, always under the best illumination.

The latter procedure is by far the most delicate part of the operation, and it is often necessary to tie the velum forward or to use a self-retaining palate retractor.

No. 70 Monroe St., Chicago.

THE IMPORTANCE OF LOCAL TREATMENT IN SYPHILIS.¹

Read before the Section on Dermatology and Syphilography, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

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There are few diseases like syphilis, for which our therapeutical actions are so well defined, for which we possess specific remedies, upon whose never-failing effect we count with nearly absolute certainty; yet nowhere is the Latin phrase equally true: *duo si faciunt idem, non semper est idem*. The where, when, and how to use those two chief agents, mercury and iodine, seems to be to many a *terra incognita*, and the prescribing of the mixed treatment forms the beginning and the end of their fight against that dread disease, in whatever phase it may be, whether it has attacked the skin only or other more important organs. The result of this *laissez aller* is often a very sad one, and many a perforated septum or palate, or even the loss of a considerable part of the nose is due to the fact that local treatment has not been given a proper place in the management of that case. This may sound somewhat hard, but I speak from ex-

¹ This paper was mislaid by the Section officers into whose hands it came. Hence its late appearance.

perience, and having observed a few such cases of late which impressed me very strongly, I have chosen this theme for my present paper. There is nothing especially new to be said in regard to this subject, at least not for those engaged in the special line of dermatology and syphilis, but it seems to me to be not at all superfluous to call the attention of the practitioners at large to the important rôle which local treatment plays in the management of syphilis, as the text-books usually touch this question in a rather superficial manner. In laying special stress upon local applications, I hope I shall not be understood as underestimating the necessity of constitutional treatment in every single case; this, of course, is a *conditio sine qua non*.

There is in nearly every stage of syphilis more or less opportunity for the successful employment of local remedies, while in some cases, mostly such showing tertiary forms, they are of the greatest importance.

In regard to the primary indurated sore, the majority of physicians to-day refrain from giving constitutional treatment and employ various local measures to secure a speedy cicatrization. The question of excision might well be discussed here, should it not abstract us too much from our theme; there can little be argued against it, when the localization allows it, as healing often takes place by primary intention. As regards its preventive effect opinions are divided. Believing the induration to be the sign of general infection, I fail to see how excision can abort the disease, and the reports of seemingly successful operations are surely capable of different explanations. In the management of hard chancre, it is always desirable to make the induration disappear as quickly as possible. For this end I have found the mercurial plaster a very valuable agent; it constitutes the simplest, cleanest, most practicable and efficacious treatment of the primary sore. As reference will again be made to this plaster, I wish to say that I always use that prepared and spread by Seabury and Johnson, which in every respect proved satisfactory.

After secondary symptoms have appeared, there is a very useful field for local applications. In selecting the plan of a general treatment I have always given preference to the time-honored frictions, which, in spite of all objections, still form the most reliable way to treat the earlier manifestations of syphilis. Besides their constitutional effect they have an undoubted local influence upon the cutaneous eruptions, causing them to vanish usually very rapidly. Patients in private practice will mostly desire before all to have the visible manifestations, as on forehead and hands, disappear as soon as possible; for this purpose a 10 to 20 per cent. ointment of the white precipitate will often work like a charm, and this result will always be highly appreciated by pa-

tients in the better walks of life. Still, the papular syphilides on the palms and soles, the so-called psoriasis specifica, will occasionally prove very obstinate and will call for more energetic measures. Thus chrysarobin has been recommended by Reumont² and by Mosengeil,³ who have successfully used it as an ointment of 10 to 20 per cent. strength. Sigmund⁴ speaks very highly of a 1 to 2 per cent. solution of sublimate in collodion. This should be painted once or twice daily on the infiltrated plaques; fissured places, of course, should not be touched by it, these are best covered with strips of the gray plaster. Gilles de la Tourette⁵ has found warm local baths with an addition of 1 part each of sublimate and of chlorate of ammonia to 2,000 parts of water, as very efficacious for that trouble. Papules appearing on mucous membranes, mostly in the throat, will readily heal when touched daily with nitrate of silver in strong solution or in substance, and under the use of an astringent gargle.

Of far more importance are topical applications for moist papules or condylomata lata, as these not only are the cause of much annoyance and discomfort to the patient, but also form one of the most common sources of syphilitic infection. As they are so easily reproduced by coaptation of opposing surfaces of the skin, as, for instance, in the genito-crural or anal folds, it is before all necessary to keep such places carefully separated by the application of absorbent cotton or gauze, and to scrupulously remove the fetid secretion by frequent cleansing with diluted sublimate solutions. For the removal of those characteristic vegetations developing so often on such places different caustic pastes have been recommended, but their application is attended with a great deal of pain. I usually prefer the cauterization with the silver stick, after previously anesthetizing the parts by a strong cocaine solution. Moist papules on the corners of the mouth or between the toes are often very painful, but they heal readily when touched with nitrate of silver and covered subsequently with mercurial plaster.

There is rarely occasion to act against the swelling of lymphatic glands. I lately treated a young man in whom a group of infiltrated glands, situated between the lower jaw and the mastoid process, caused a constant pain and great difficulty in swallowing. An ointment containing iodine, iodide of potassium and ichthyol reduced the swelling in two days and brought perfect relief. For suppurating bubos surgical interference will, of course, be necessary.

During any form of treatment with mercurial preparations the mouth will always require attention, as the saliva soon becomes impregnated with the drug and is the direct cause of mercurial stom-

²Chir. Centralbl. No. 3, 1880.

³Berl. Klin. Wochenschrift, No. 22, 1879.

⁴W. Med. Wochenschrift, No. 41, 1875.

⁵Progrès Médical, No. 30, 1886.

atitis. The most diligent care of the teeth and gums, abstinence from tobacco and irritant substances, and the frequent use of an astringent mouth-wash will greatly aid to delay this incident. Brockhart⁶ recommends a solution of 5 to 10 parts of tannic acid in 20 parts of glycerine to 80 parts of water for this purpose. The gums may sometimes become so tender as to make mastication very painful and to necessitate an interruption of the administration of mercury. To overcome this the same author has suggested the use of a 10 per cent. cocaine solution, to be painted on the delicate parts a few minutes before meals.⁷

We have thus far seen that, during the earlier manifestations of syphilis, there are many indications for local treatment. In the later stages of the disease it becomes often imperative, and Hutchinson, who regards tertiary symptoms as mere local sequelæ, has gone so far as saying that only local remedies will lead to success in treating them, whereas constitutional treatment is of minor value.⁸ There is much truth in this. While general treatment, especially the use of iodides, is certainly capable of removing many of the symptoms incidental to the so-called tertiary period, it will be entirely unable to arrest the destruction which, for instance, serpiginous ulcers produce on the skin and mucous membranes, and here it is where local treatment is followed by the most brilliant results. Allow me to illustrate this.

Anna S., 16 years old, was brought to my office the 17th of December, 1887, through the kindness of Dr. C. Fenger, who in an accompanying letter asked me to conduct the medical treatment, while he later on should do the surgical part of the work. Without going into the details of the history of this case, which, from its aspect (general cachexia, Hutchinsonian formation of teeth, etc.), and from the anamnesis, had to be regarded as due to hereditary causes, I shall briefly state that the whole upper lip and both alæ nasi were the seat of those characteristic ulcerations resulting from the breaking down of gummatous neoplasms. The cartilaginous part of the septum was perfectly destroyed, only the small anterior cutaneous bridge remaining; accordingly the dorsum was depressed as a result of the defect. The anterior portion of the nose, where not ulcerated, presented that peculiar livid tint, and it seemed only too natural that the necessity of a rhinoplastic operation in the near future was suggested to Dr. Fenger. The affection was said to have begun with a peculiar eruption on the nose about one and one-half year ago, which was followed by a swelling of the upper lip. For the last six months she had been under the care of a prominent specialist for the diseases of the throat and nose. *Sapienti sat!*

I immediately began energetic local treatment

by using the silver stick very liberally every second day. The patient was directed to clean the sores twice daily with a 1 per cent. sublimate solution, and to cover the same in the meantime constantly with the adhesive gray plaster. Iodide of potassium in daily doses of 2.00 was prescribed for internal use. The effect of this treatment was all I could hope for; within ten days the ulcerations were completely healed, a very smooth cicatrization having taken place, and the shape of the nose was preserved. By inserting two small rubber tubes the contraction of the scar tissues around the opening of the nose was prevented. The patient, of course, was only too glad to be saved the trouble of a plastic operation.

Cases like this are, fortunately, in our days not very common; but they must not happen at all, and to let the destruction go on undisturbed until an important organ is endangered, borders on criminal negligence or ignorance.

I have on record the notes of a case where extended, deep syphilitic ulcerations had existed and spread on the scalp of a man for over two years when I began to treat him, in December, 1886, after the principles just mentioned, and in less than two weeks perfect cicatrization had taken place, the patient remaining well ever since.

To the kindness of Dr. M. Mannheimer, of Chicago, I owe a very interesting case of a woman about 30 years old, whom I treated in the winter of 1884. She had been infected about 1½ yrs. ago by her husband, who confessed to having had an indurated chancre, but otherwise did not remember to have suffered from any symptoms of constitutional lues. The woman herself knew nothing of having had a primary sore, nor the usual secondary manifestations, but the first thing she noticed was the appearance, judging from her description, of a generalized rupia about a year ago, which soon became ulcerated. When I first saw her, she was simply covered with those horse-shoe formed sores; the whole scalp was one ulcerated surface, producing an unbearable smell. The back of the right hand was nearly perfectly destroyed, and about sixty more ulcers, from the size of a penny to that of the palm of a hand, were present on the rest of the body. The forehead, nose and chin were the seat of an ecthyma eruption. The patient suffered a great deal, and was hardly able to find comfort in any position. I ordered iodide of potassium 2.00 pro die in solution, a warm bath medicated by 10.00 of sublimate daily for an hour, emplastrum hydrargyri as a local dressing, and white precipitate salve for the face, while the scalp, for the first few days, was to be saturated with salicylated olive oil to facilitate the removal of crusts and detritus, and afterwards washed daily with sublimate soap and anointed with the mercurial salve. The sores were touched every third day with nitrate of silver. Healing soon began to take place on some of the smaller ulcers,

⁶ Monatshefte f. prakt. Dermatologie, No. 8, 1885.

⁷ Ibid., No. 2, 1886.

⁸ Syphilis, Discussion, London Pathological Soc., 1876.

and after a little over two weeks the patient was completely cured, and only continued to take the iodide for some time. She has remained well ever since.

I could cite quite a number of other observations just as striking, but these few examples may be sufficient to show the efficiency of local treatment in these graver forms of cutaneous syphilis.

I wish to add only one word with reference to the cauterization by nitrate of silver, which I regard as a very essential part of the treatment. Its use was formerly accompanied by a great deal of pain; now I always employ previously a 5 to 10 per cent. solution of cocaine for a few minutes, by which it is possible to make that operation without the least objection on the part of the patient.

Ulcerating syphilides may occasionally become phagedenic and resist all kinds of treatment. For such cases Spillmann⁹ has recommended the free use of Volkmann's sharp spoon, subsequent application of Paquelin's cautery and dressing with sublimate solution. I have so far had no occasion to resort to these radical measures.

It would be beyond the scope of this merely suggestive paper to speak at length about the treatment of syphilitic affections of the tongue, the nose, throat and larynx, the eye and ear, the bones, etc.; this must be left to those who make these organs their special study. What has been said in regard to the skin applies still more to them. When necrotic bones are the cause of a chronic ozæna, when a gumma is about to destroy an eyelid, when exfoliative perichondritis in the larynx may at any moment endanger the life of a patient, there is no time to wait for the effect of internal treatment; this will certainly in many respects be a valuable adjuvant, but only *local* applications will be able to arrest the destructive processes in those important organs.

MEDICAL PROGRESS.

FORTY-TWO CASES OF INTUBATION.—DR. F. K. PRIEST reports: In a series of 266 cases admitted to the Willard Parker Hospital, intubation was performed for the relief of laryngeal stenosis, in 42, or a little over 22 per cent. of that number, with a percentage of recoveries of 26.19. The majority of these cases were of undoubted diphtheria, with well-marked symptoms of laryngeal stenosis, at the time of admission, while many of them had been without proper care or medical treatment and well-advanced in the last stages of septicæmia, the operation being performed merely for the relief of the stenosis, with no hope of ultimate recovery.

Of the 42 cases 8 were cases of diphtheria com-

plicating or accompanying other contagious diseases, as follows: 1 case of measles and diphtheritic conjunctivitis; 1 of varicella; and 6 of scarlet fever. In 35 of the 42 cases membrane was present in the throat or anterior nares, or coughed out either before or after the introduction of the tube; in the 7 remaining cases, the presence of membrane was not detected at any time during the course of the disease, although there was more or less swelling of the cervical glands with discharge from the nostrils. Only one of the seven recovered.

On admission in 29 cases, the symptoms of laryngeal stenosis were well advanced, 25 of this number being unquestionably diphtheria, and one case in which the presence of membrane could not be detected, a large piece was coughed out during the introduction of the tube. In 5 cases there was a hoarse, croupy cough without dyspnoea, and in 8 the laryngeal symptoms developed after admission. In all cases where the character of the dyspnoea and the general condition of the patient permitted of the delay, intubation was not resorted to until other means for the relief of the stenosis had been tried and failed to give more than temporary relief.

In 3 cases only, where the urine could be obtained, albumin was not found on examination, several dying from acute nephritis with suppression of urine, as occurred once five days after the removal of the tube, all local evidences of diphtheria having disappeared at the time. This one has been included in the list of fatal cases, as the patient was not discharged from the hospital, although it might be considered as a successful case of intubation.

In those cases that recovered, the average time the tube remained in the larynx was 6½ days. No definite rule, however, was followed as to the time of removal. In cases that were progressing favorably the tube was left in position until the membrane had disappeared from the throat and nose and the fever had subsided. The tube was removed in one case on the fifth day, the membrane being still present on the tonsils; on account of violent and persistent coughing and vomiting after taking fluids, the urine was also scanty, high colored, nearly three-fourths albumin; after which the cough was less troublesome, vomiting ceased, and the child took plenty of fluids; although the breathing was somewhat stridulous there was no return of the dyspnoea.

Coughing after drinking was a constant symptom and, in several cases, it was severe enough to induce vomiting. The above case was the only one, however, in which this symptom was severe or constant enough to seriously interfere with the ordinary feeding or treatment. The most troublesome complication, and one that in several cases was productive of very alarming symptoms, was from the collection of mucus in

⁹ Ann. de Derm. and Syphilogr., 1885, p. 712.

the throat and consequent obstruction of the tube. This was found especially apt to occur in very young children during the night or early hours of the morning, the child being unable to expel, by coughing, the mucus that gathered in the throat during sleep; as a result the respirations became labored and, if not relieved, gave rise to intense dyspnea, interfering with the circulation, and, in fact, all the symptoms of stenosis of the larynx. For the relief of this symptom syrup of ipecac, in doses sufficient to produce vomiting, was given with good results, the act of vomiting expelling the mucus, and relieving the dyspnea without disturbing the tube. Emesis was thus induced several times in one case, which afterward recovered.

The removal of the tube was always followed by more or less stridulous breathing, lasting from a few minutes to several hours, and in several cases by dyspnea coming on in a few seconds or minutes and rapidly becoming alarmingly stenoitic, necessitating the immediate reintroduction of the tube. In a child one year of age, the tube was coughed out on the fifth day, symptoms of stenosis suddenly appeared and the patient became unconscious; tracheotomy was immediately performed. The child revived and was apparently as well as before the tube was removed, but died quietly 8½ hours after the operation.

In 3 cases, the removal of the tube was followed by symptoms that seemed to point to ulceration of the larynx or trachea, and in one in which a partial autopsy was obtained such was found to be the case.

In 3 cases of severe diphtheria, with nephritis, dying from the effect of the septic poisoning, in which slight dyspnea was present, the tube was removed and found to be nearly filled with thick mucus and cheesy material, the patients breathing easily and naturally after its removal, without any return of the dyspnea.

The average age was 2 years and 11 months; youngest 9 months, oldest 7 years. In 25 cases admitted with diphtheria in which a fairly accurate history was obtained, the day of the disease varied from the second to the ninth, the average being the fourth. Swelling of the glands of the neck was marked in 28, slight in 11, and absent in 3 cases.

Discharge from the nostrils was slight in 6, marked in 8, sanguineous in 11, and absent in 7 cases, although membrane was present in the anterior nares in only 13. When present in the throat the membrane was confined to the tonsils in 14, to the soft palate in 1, to the tonsils and soft palate in 8, and to the tonsils, soft palate, and pharynx in 9 cases.

In the majority of cases it was found very difficult to obtain a clear history as to the time of the first appearance of the laryngeal symptoms, *i.e.*, the croupy cough.

In 25 cases the time from the first appearance of the laryngeal symptoms to the introduction of the tube varied from 24 hours to 8 days, the average being about 4 days.—*Medical Record*, February 23, 1889.

PHENYL-PROPIONIC ACID IN PHTHISIS.—DR. C. THEODORE WILLIAMS, in a paper on "New Antiseptics in Phthisis," says of this substance:

Phenyl-propionic acid ($C_9H_{10}O_2$) is one of the numerous derivatives of coal-tar, and consists of acicular crystals of reddish-white color, insoluble in water, but dissolving in spirit (1 in 6), and giving a feeble acid reaction on testing. A saturated alcoholic solution was made and diluted with water, with which, however, it was found not to mix well, 10 minims requiring an ounce of water to keep it in suspension. When so dissolved it had a sour aromatic taste, not at all unpleasant, with a decided aroma, which often pervaded the air of the ward. The alcoholic solution was administered in 10-minim doses with an ounce of water, and was generally increased to 20 minims in 2 ozs. of water three times a day. This was the largest dose given. Twenty hospital patients were selected for the treatment, 6 males and 14 females. The ages of the males varied from 20 to 45, and that of the females from 14 to 41, the average age of the latter being 20.

Duration of Disease.—The cases were for the most part those of chronic phthisis, nine of them having been ill for at least two years, and some for longer periods, though in the rest the symptoms dated a few months back. There were the usual symptoms of phthisis, including much wasting and night sweats. One patient was a case of scrofulous phthisis; the rest were of the ordinary chronic tuberculous type. Pyrexia was present to a greater or less extent in four patients.

State of the Lungs.—Nine were cases of tuberculization, 6 of one lung, the right being the one attacked in 4 and the left in 2; 3 were cases of double affection, both upper lobes being the seat of tubercle. Cavities were present in 11 cases, more than half the whole number, 3 were single cavity cases, 1 with tinkling cavernous sounds, and the opposite lung free from disease, 1 a double cavity case, *i.e.*, with a cavity in each lung. The remaining 7 were cases of a cavity in one lung and tuberculization of the upper lobe of the opposite one. This gives a total of 11 cases of double affection against 9 of single affection. The case of scrofulous phthisis presented consolidation of both upper lobes with no cavity; there was considerable enlargement of the cervical glands. In 14 cases the sputum was examined for tubercle bacilli, and in 13 they were detected in varying abundance.

It will be seen that, judging by, 1, the large proportion of cavity cases; and 2, of double affection; and 3, the inclusion of some pyrexial pa-

tients, they were not very favorable specimens, and many belonged to the category of unfavorable cases.

The patients took the phenyl-propionic acid for periods varying from 28 to 85 days, the average being 46.7 days. As a rule it caused neither nausea, vomiting nor anorexia, except in 2 cases, in each of which the nausea was overcome by further diluting the medicine with water. The peculiar odor could not be detected in either the perspiration, the urine, or the feces, in all of which secretions it was duly searched for. The patients took no other medicine, except alterative purgatives when necessary.

General Results.—Thirteen improved, 4 remained in a stationary condition, and 3 became worse. The improvement consisted chiefly in gain of appetite, strength and color (one interesting point being that in the pyrexial cases the phenyl-propionic acid exercised no influence on the temperature-curve); 14 gained weight, varying from $\frac{1}{2}$ lb. to 5 lbs.; 4 lost weight, and 2 neither gained nor lost; the largest gain was 5 $\frac{3}{4}$ lbs.; the greatest loss 7 lbs. Of the 4 pyrexial patients, 2 lost weight; in 1 it was stationary, and 1 gained weight. The "first-stagers," or cases of tuberculization, did not seem to improve as much as the cavity cases, for while, out of 9 first-stagers, 5 improved, 3 remained stationary and 1 deteriorated; out of 11 third-stagers 8 improved, 1 remained stationary, and 2 became worse. The double cavity case improved greatly, and gained 3 lbs. in weight. From this we should be inclined to infer that phenyl-propionic acid exercises more influence on suppuration than on tuberculization.

Local Results.—In 5 patients the condition of the lung showed a distinct improvement, 3 being cases of tuberculization, and 2 cases of cavity with disease of the opposite lung; in 9 no change in the lungs could be detected after the treatment, and in 6 there was either advance or extension of disease, or both. These results contrast unfavorably with the general ones, and confirm a common experience in pulmonary disease, that general improvement is far easier to obtain than local quiescence. The medicine was not observed to diminish the amount of expectoration, or specially to reduce the cough, but decided increase of appetite, and gain of weight, color and vigor were noted in the cases "improved."—*The Practitioner*, February, 1889.

A NEW FORM OF RECTAL MEDICATION.—H. F. MEIER suggests, for the rectal administration of glycerine, a suppository, prepared by the simple addition or the incorporation of a special kind of soap. This soap, characterized by extreme hardness, known as stearine soap, has the property of imparting to the glycerine in which it is dissolved the requisite degree of firmness. These

suppositories, from the nature of the composition employed, offer the medicinal ingredients in as compact a form as possible, containing as high as 95 per cent. of glycerine. In this respect they offer a decided contrast to the form prepared by filling hollow cones of cocoa butter, and which, from the nature of the material, are of an uncomfortable size. The hygroscopic nature of the glycerine requires that reasonable precautions be taken to preserve the suppositories in a dry atmosphere, in order to prevent the accumulation of moisture on their surface and consequent dilution of part of the glycerine, with possible loss of activity.

The form adopted is a double-pointed cone. The closing of both sphincter muscles around it results in an upward movement, undoubtedly assisted by the impetus originally given. It has been found that this form offers the least amount of obstruction to such reflex peristalsis. Experience has shown that perfect solution is not indispensable to their activity, but that they are capable of provoking a laxative effect without a noticeable loss of substance. That the glycerine, however, exudes or escapes, so as to exert an effect, can be admirably shown by suspending a suppository at the surface of a test tube filled with water. This is accomplished by simply running a pin through the upper end of the suppository, the ends of the pin projecting over the tube. The glycerine can now be seen to escape and its rapid downward flow observed. These suppositories have been used extensively and with quite uniformly beneficial results, both in this country and in Europe. While it is possible to prepare a suppository which would be entirely soluble or nearly so, success has not yet attended the manufacture on a large scale of such with regard either to economy or safety, that is, as far as their keeping qualities are concerned. A suppository which, while possessing this apparently desirable feature of solubility, melts below the average temperature of the body, 98° F., cannot at the same time be either adapted or expected to withstand the vicissitudes of climate to which it would inevitably be exposed in different sections of a large country.

Cases have been met with in practice, in which these suppositories were not applicable; indeed, in which the introduction of any foreign substance except clysters is contraindicated. Considered from a physiological standpoint, the action of these suppositories would naturally be confined to the rectum and usually the lower part of the great intestine. Where obstruction exists in the intestines too far removed from the tracts just named, other means must necessarily be adopted. Frequently certain febrile or inflammatory conditions of the intestinal tract would alone preclude their use. Such contraindications are self-evident to the observing physician. While these suppositories have in many cases decided advantages over

like contrivances prepared from gelatin, unfortunately their range of application is limited. This results from the chemical nature of the agent employed to solidify the glycerine. It will be evident from these considerations that many medicinal agents, which it would be desirable to administer in the form of suppositories, would be incompatible with the base employed, while others not affecting the soap with resulting decomposition, can be employed to better advantage in this way than when cloaked with an excipient or carrier of a fatty nature.—*Druggist's Bulletin*, February, 1889.

CITRATE OF CAFFEINE IN ECLAMPSIA.—B. CORNEY reports a case of a woman, æt. 23, who gave birth to an undersized but full-time child at 7 A.M., August 21st, after an easy labor of three hours. About noon headache came on; at 9 P.M. vomiting took place, and at 11 P.M. convulsions set in, lasting, with intermissions, ten hours. The bromides, hyoscyanus, chloral hydrate, and chloroform did not seem to have much effect. The patient remained in a deep stupor for three nights, and the two intervening days. There was slight fever, a weak pulse varying from 80 to 132, great cyanosis, incontinence of urine, and left hemiplegia. As the vital powers appeared to be rapidly failing, it was necessary to take some decisive step. Corney objected to alcohol, because of the imperfect aëration of the blood that was going on, as evinced by the cyanosis. He was uncertain how much of the stupor and cardiac weakness was due to the disease, and how much to the bromide and chloral. Caffeine suggested itself, and he immediately injected grs. iij of the citrate dissolved with grs. iiss of sodium salicylate in ℥ x of distilled water. This was followed in an hour by six grains more given by mouth, and two grains every two hours afterwards for six doses. Some general improvement took place, the pulse bettered, and the attacks of lividity ceased. The paralytic symptoms diminished in degree, and towards dawn on the 24th signs of returning consciousness were observed. The caffeine was continued for two days, and from this time the patient made a steady recovery. A week later the only remaining abnormalities were a certain degree of muscular weakness and debility.—*Practitioner*, Feb., 1889.

PERMANENT SLOW PULSE AND URÆMIA.—Referring to those cases of permanent slow pulse (28 to 30 per minute), in which Charcot has said a medullary lesion must exist, DEBOVE has, in just such a case, examined the medulla and found no lesion. He recently had under his care a man of 80 years, who had been seized, during a course of dyspnoëic attacks, with syncope and epileptiform attacks. His pulse was 32. His heart and lungs seemed normal. He was passing about 600

cc. of urine a day, which contained from 7 to 8 grams of urea and no albumin. Milk diet caused diuresis, and an increase of urea up to 20.5 grams a day and the dyspnoëa disappeared, the slowing of the pulse continuing unchanged. Gingeot has seen the pulse rise from 32 to 40 on the accession of acute bronchitis in a similar case, while the axillary temperature was 102°.—*Le Practicien*, Dec. 10, 1888.

MENTHOL IN PRURITIC AFFECTIONS.—Menthol is recommended by SAALFELD (*Deutsche Med. Wochenschrift*, No. 46, 1888), as exceedingly beneficial in cases of pruritis of various kinds. He prescribes it either as a wash or as a salve, the formulæ being:

I. Menthol 1.5-2.5 grams
Spirit vin. rect. 50.0 "

and

II. Menthol 2.5
Ol. Olivarium 7.5-10
Lanolin. ad. 50.0

Both preparations have done him excellent service in uriticaria, pruritus cutaneous, and pruritus senilis.

A case of intolerable itching consecutive to otherwise successfully treated scabies was perfectly cured by applications of the following ointment:

Menthol 2.5 grams
Bals. Peruv. 5.0 "
Ungt. Wilson (Ung. Zn. benz.)
Lanolin, pur. aa ad. 50.0 "
N. f. ungt.

Menthol as a 10 to 15 per cent. ointment proved likewise very valuable in chronic eczema, even in quite inveterate cases.

SUPPOSITORIES FOR CYSTITIS.—

R. Iodoform 134 grains.
Extr. of hyoscyanus 1 grain.
Cocoa-butter 45 grains. ㄹ

Make one suppository and introduce high up into the rectum.

The bladder should be washed morning and evening with lukewarm water. If there be any urethral irritation, a pill containing 134 grains of terpin should also be taken morning and evening. *Journal de Médecine*, January 6, 1889.

TO ABORT ACUTE BRONCHITIS DR. H. C. WOOD recommends

Potass. citrat. ʒi
Syr. ipecac ʒi
Succus limonis ʒi
Aque ʒiij

S. Two teaspoonfuls every two hours.

WARMING MEDICINES BEFORE ADMINISTRATION.—LEWIN recommends the warming of medicines before administering, and of subcutaneous solutions as well. The absorption, he points out, is much quicker and the doses necessarily smaller. *The Medical Age*, February 29, 1889.

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IS THE ANTIPYRIN CRAZE HARMLESS?

The number of new drugs constantly recommended to the therapist is bewildering. The fertility of the synthetic chemists of Germany seems as exhaustless as the coal beds whence they derive their material. Yet it is questionable whether or not the practice of medicine is benefited by this multiplication of remedies. Paraldehyde, hypnone, urethan and now sulfonal, have all in turn been vaunted for their remarkable hypnotic virtues, and yet our old stand-bys, such as chloral hydrate, continue to maintain their supremacy. Some of the most recent testimony on this point has come from no less an authority than Dr. Huchard, whose conclusions were summarized in our letter from Paris in THE JOURNAL of February 23. He has tried sulfonal and found it inert in phthisis, heart disease, subacute articular rheumatism, neuralgia, etc., and therefore believes that its special sphere of action must be in nervous sleeplessness. In his experience it is not free from serious drawbacks, since it may produce an altogether too prolonged sleep and be followed by nausea, dizziness, a feeling of weariness amounting to great lassitude. It is likely, therefore, that none of these hypnotics will wholly supersede chloral.

But there is one group of coal-tar derivatives that has sprung into widespread popularity, and for which the demand seems not to abate. These are the antipyretics, and at their head stands antipyrin. Its sphere of action is wide, but our knowledge of its utility is almost entirely empir-

ical. In addition to powerfully depressing febrile temperatures, it was found to possess remarkable influence over pain, particularly all forms of neuralgia. The result is, that not only do physicians prescribe it for headache, neuralgia, myalgia and the like, and throw it into the rectum to allay the pains of parturition and dysmenorrhœa, but druggists dispense it without requiring a prescription, and the laity keep it on hand, it might almost be said, *on tap*. Is this state of things desirable? It certainly is not, so far as the people and druggists are concerned, and in the case of physicians it may be fairly asked if such empiricism is not calculated to beget loose methods. The ultimate duty of the physician should be to heal by removing the cause, wherever possible, not to rest content with affording temporary relief only. Yet, with a means at hand of removing pain less injurious than opium, is it not a temptation to limit attention to the treatment of symptoms? If, nevertheless, it is urged that such use of drugs is not only legitimate, but actually good policy so long as they appear to be harmless, the query may be made in response, Is antipyrin so harmless as it seems? "Ay, there's the rub;" as yet but very little is known as to the effect of this remedy upon the physiological processes of the human body. A few facts, however, appear to be established. MM. Lépine and Porteret (*Comptes Rendus*, Nos. cvi and cviii), have found that when it is administered to guinea-pigs and when the fresh liver is immersed in a solution of antipyrin, the conversion of glycogen into sugar in the liver is hindered. To be sure, proportionately larger doses were administered in their experimentation than would be given therapeutically; yet, the prolonged or daily ingestion of this drug might produce a similar result in man. Accordingly, on this hypothesis, M. Germain Sée has employed it in diabetes mellitus and actually found a diminution in the amount of sugar excreted. Since, then, this function of the liver is thus limited, is it too much to assume that this organ may have its other functions deranged likewise? particularly, its conversion of nitrogenous matters of the food into urea. Furthermore, Sawadowski (*Centralbl. f. die Medicin. Wissensch.*, 1888, Nos. 8, 9 and 10), in experiments on dogs, discovered in animals with fever an increase in the amount of nitrogenous materials excreted, also that, in the strength of 2 per cent., a solution of antipyrin destroyed the red blood corpuscles,

and in the strength of 3 to 5 per cent. rendered the blood lakey. He furthermore found that, in large doses, it produced convulsions, and came to the conclusion that the emesis occasioned by it was because of action on the central nervous system.

It may be urged that the increased excretion of the products of tissue-waste produced by antipyrin in febrile dogs indicates a better elimination and not necessarily any actual augmentation of retrograde tissue change. On the other hand, since the febrile condition occasions a greater than normal destruction of tissue, it is probable that this process is really helped along by antipyrin. Indeed, there are facts drawn from *post mortem* observation that bear this out. We quote with reference to this point, from Prof. W. H. Porter's paper (The Etiology and Pathology of increased body heat in relation to disease and the use of Antipyretics), read last June before the Ontario Medical Association. Speaking of all the members of this group to which antipyrin belongs, he says: "Experimental study, however, shows that in large doses they produce a rapid and marked parenchymatous metamorphosis of the liver and kidneys, which is followed by albumen and casts in the urine. They are also thought to have direct depressing effect upon the medullary and spinal centres. This being true, is not their antipyretic action due to their causing a further increase in the functional and organic metamorphosis of the protoplasmic elements of the body, which disturbs still more the physiological processes of the liver, kidneys, and excretory organs, and thus cause a greater accumulation of the effete and toxic matter in the blood, until accumulation becomes so large that a state of general depression is produced, which throws the system into a condition strongly simulating that known as collapse, during which the temperature falls?" Further on occur these sentences: "Pathologically we find at the present time more marked and destructive parenchymatous changes in the liver and kidneys than was the case before the introduction and use of this group. In many instances the examination of the liver and kidneys has revealed a condition of granular and fatty metamorphosis equally as bad as that found in acute yellow atrophy of the liver, or in connection with acute phosphorus poisoning."

The analgesic qualities of antipyrin have led to

its employment in cases of labor, and the reports of its influence over these pains are quite enthusiastic. But associated with this effect appears to be that of lessening the secretion of milk (*vide Medical News*, Dec. 8, 1888, a paper by T. Haven Ross, M.D.).

Whether these and other effects of this group of remedies are substantiated or not, there is ample clinical evidence that these are dangerous agents to trifle with. Hence, would it not be wise to exercise more caution in the administration of these powerful drugs than at present appears to prevail? Is it not high time that somebody called a halt in this present display of dangerous, though tempting empiricism? Can this antipyrin craze be said to be harmless? We think not.

ANÆSTHETICS IN DENTAL PRACTICE.

IN THE JOURNAL of March 2 we noticed editorially a case of death from chloroform in a dentist's chair. DR. J. C. REEVE, of Dayton, Ohio, has kindly sent us the October, 1888, number of the *Dental Register*, containing an article on "Anæsthetics in Dental Practice" from his pen, which, on the subject of anæsthetics, is one of the ablest in the profession. Dr. Reeve says: "There is no professional duty I perform so unwillingly as that of administering an anæsthetic for dental purposes, no fee that I consider so hardly earned as that which I receive for this service. At the same time I am frequently giving anæsthetics for general surgical purposes without hesitation and without undue anxiety." Again he says: "Are anæsthetics more dangerous in dental practice than in general surgery? The answer must be unqualifiedly in the affirmative. Without attempting to collect statistics take only those of the Royal Medico-Chirurgical Society and those of Sanson.¹ The one gives 8 cases of death under tooth-drawing out of 100 of all operations, and the other 12 out of 107. Here then is nearly 10 per cent. of all the deaths occurring in dental operations. But this statement alone gives no just idea of the relative mortality. This could only be accurately ascertained if the total number of administrations in all surgical operations was known. Certainly anæsthetics are administered for general surgical

¹ On Chloroform, London, 1865, p. 69.

purposes hundreds of times for once in dental practice, and if so, then the relative number of deaths under tooth-drawing is enormously large. The causes of the high rate of mortality during this particular operation are not far to seek. I do not believe that the entrance of blood into the air-passage is very important. Several deaths, however, have been caused by an extracted tooth falling into the larynx, without doubt due to the position of the patient. Anæsthetics should never be administered unless the patient be recumbent. This is not, however, in my opinion, a very potent factor, and was fully considered in the paper. Another is the particular nerve involved in the dental operation, the acute pain caused by injuries to it, and the powerful effect of sudden impressions upon its branches upon the great and vital processes of respiration and circulation. By sudden impressions upon this nerve more than any other, is that inhibition of the heart's action brought about which is sudden death. Far more important than all, however, is the fact that the induction of anæsthesia for tooth-drawing is likely to be incomplete, and will pretty certainly be so if the operator is also the administrator. Now it is a positive doctrine of the highest and latest authorities that such reflex actions as above given are increased under chloroform, that a state of partial anæsthesia is therefore one of especial danger, and especially so if the pain produced is at once sudden and sharp.² It is gratifying, therefore, to see that this source of danger is fully recognized by the author of the paper, although it is not emphasized as it deserves to be. There is no more seductive procedure than to give a few whiffs of chloroform for the extraction of a tooth; there is no more dangerous practice. If an anæsthetic is given at all, it should be given until the patient is 'off.' There is no plainer doctrine than this connected with the subject."

Dr. Reeve wholly dissents from the doctrine that a full dose of whisky before the administration of the anæsthetic secures safety. There are on record many cases of death from chloroform in which an alcoholic stimulant was given just before the fatal inhalation. In regard to bromide of ethyl, Dr. Reeve thinks it is a dangerous agent, on account of its bad record, and its marked perturbative action on the heart. He

does not know of such objections to the use of nitrous oxide as will justify dentists in resorting to stronger anæsthetics. The objections adduced, he says, "seem but trivial when the tremendous responsibility is considered which the dentist takes upon himself when he proceeds to administer chloroform or ether, when the awful calamity of a sudden death from these agents comes to mind."

It may be said, finally, that when a dentist administers chloroform for the purpose of pulling a tooth, he incurs a responsibility that he has no right to incur.

EDITORIAL NOTES.

THE REMOVAL OF SIMPLE MAMMARY TUMORS by Thomas's operation, says DR. JOHN DAVEY HAYWARD, while manifestly advantageous, seems to be but little known and seldom practiced. The operation consists in making the incision along the curved groove formed below the breast, where it hangs against the thorax (the groove may be marked while the patient is in the erect position); the gland is very readily turned up from the muscle, and the tumor removed from its lower surface by a radial incision. The primary incision is made away from the larger supply-vessels; the weight of the breast obliterates the cavity, and the drainage tube may be removed on the second day; primary union is the rule. Dr. Hayward reports the removal of an adenoma, the size of a small orange, from the upper sternal portion of the gland by this method. It is impossible to find any scar or sign of interference without completely raising the breast.

THE OVARIES AND TUBES AFTER HYSTERECTOMY.—DR. J. GRAMMATIKATI has made a series of experiments, in the laboratory of Professor Lebedeff in St. Petersburg, to determine the fate of the ovaries and tubes after total extirpation of the uterus in guinea-pigs. His results are recorded in *Centralblatt für Gynäkologie*, No. 7, 1889. The guinea-pigs used were, some in normal condition, others in abnormal conditions of life. The abdomen was opened *lege artis*, and the uterus extirpated under the usual precautions in some of the animals; in others the uterus and tubes were removed; in still other cases one cornu only of the uterus was extirpated, with or without the corresponding tube. One ovary was re-

² See Lauder Brunton's *Therapeutics*, and Buxton on *Anæsthetics*, 1888.

moved in all cases, in order to compare it microscopically with the other ovary, after sufficient time had elapsed for changes to take place in the second. From his experiments Grammatikati concludes: 1. After removal of the uterus the ovaries continue to functionate. There is no change in the process of ripening and bursting of the Graafian follicles, nor in the formation of the false corpora lutea. 2. Simultaneous extirpation of the uterus and tubes has no influence on the function of the ovaries. It appears, therefore, that both ovaries should be removed when the uterus is extirpated. Soon after completing his experiments, Grammatikati made an autopsy on a woman upon whom Lebedeff had performed hysterectomy three years before. In the ovaries were found Graafian follicles in all stages of development, and the ovaries showed no trace of atrophy.

AMERICAN PHYSIOLOGICAL SOCIETY; *Prize for Investigations in Regard to some Points in the Physiology of the Nervous System.*—With the wish to promote research in certain departments of Physiology, and to aid in defraying its cost, a member of the American Physiological Society has offered two hundred dollars for the best research or researches bearing on one or more of the subjects stated below, viz: "The rate of transmission of nerve impulses, afferent and efferent, and the duration of reflex and reaction time in the higher animals, especially man; also the conditions, normal and pathological, which alter such rates and times." The competition is limited to residents of North America, and the prize will be awarded for original work done after January 1, 1889. The award will be made by the persons that on October 1, 1890, constitute the Council of the American Physiological Society. In making its award, the Council will take into consideration researches of which printed or legibly written accounts, marked on the outside, "Nerve Physiology Prize," have been received by the then Secretary of the Society before October 1, 1890. To obtain the prize, a research must have a direct bearing on human physiology, and good researches on man will be preferred to similar researches on other animals; but experiments on mammals other than man, if applied to the interpretation of the phenomena of the human body and supplemented by observations on man,

will have weight. Previous publication will not debar a research from the competition, provided the work has been done after January 1, 1889. The council reserves the following rights: to withhold the prize if, in its opinion, no research presented is sufficiently worthy; to award only a part of the prize if, in its belief, a research, though meritorious, does not deserve the whole; to divide the prize between two or more candidates in ratios which seem to it just; and if it think it desirable, to require a competitor to demonstrate his experiments to a committee appointed by the Council. Communications concerning prize should be addressed to H. Newell Martin, Secretary, Johns Hopkins University, Baltimore, Md.

REQUESTS TO WESTERN RESERVE UNIVERSITY.—The Dispensary of the Medical Department of the Western Reserve University, which is now largely maintained by the Hurlbut dispensary fund, consisting of \$10,000 donated by Mr. H. B. Hurlbut, will soon be set on an independent footing. A wealthy local philanthropist has promised an endowment of \$50,000 for the dispensary. Hitherto the work in this department was comparatively limited, but with this additional fund much good work is promised for the future. The Laboratory of the College is now being thoroughly refitted with new and expensive apparatus, and another local capitalist has given the faculty *carte blanche* to buy the best possible instruments wherever they can be purchased.

DEATHS OF CENTENARIANS.—Chesley Heal, born at Westport, Me., on November 16, 1778, died at Searsport, Me., on October 6, 1888, aged almost 110 years. He was a soldier in the War of 1812. It is said that he voted at every election from 1800 to 1880, his first vote having been cast for Thomas Jefferson. He lived an unusually quiet and orderly life, and it is said that he was visited by a physician but once during his long life. On March 1 Mrs. Margaret J. Mitchell, of Cleveland, Ohio, died at the age of 100 years and 2 months. She was born at Georgetown, Me., and lived in Maine until the age of 90 years.

OSSIFYING SARCOMA.—At a recent meeting of the Pathological Society of London, MR. D'ARCY POWER showed a very complete series of specimens of ossifying sarcoma. The case was that of

a girl, æt. 13, who applied for relief on account of a swollen knee, due apparently to tubercular synovitis. The knee rapidly increased in size, and the thigh was amputated in the middle third. Examination of the limb showed a large ossifying sarcoma surrounding the condyles, and extending along the shaft of the bone for almost six inches. A month after the amputation an enlarged gland was removed from the groin; it was so firmly attached to the femoral vein that an inch of the vessel was removed with it. This gland was two inches wide, and was so hard that it had to be divided with a saw. The patient died two months and a half later, and Mr. Power obtained a series of specimens showing the secondary growth in the lungs, ribs, and clavicles, and a large deposit in the ilium. The growths were all of the nature of round-celled sarcoma embedded in a vascular matrix of true bone.

THE ANTIDYSPNOEIC ACTION OF IODIDE OF POTASSIUM has been studied by PROFESSOR SÉE, who concludes that this drug antagonizes dyspnoea in a double manner: 1. By liquefying the products of catarrhal secretion that block the bronchi and hinder the entrance of air; and by facilitating gaseous changes between the intrapulmonary and the ambient air. At the same time it acts on the respiratory centre and on the pulmonary circulation. 2. By causing a true pulmonary hyperæmia, which has the effect of accelerating the circulation and of increasing the changes. Venous stases disappear under its influence, asphyxia diminishes, and respiration becomes freer and easier. Iodine is not only a respiratory, but a pulmonary medicament. Whether the hyperæmiatic action of the iodine is due to excitation of the vaso-motor centre, and especially of the vaso-dilator nerves or not, it matters little. Calmeil has shown that iodine accumulates in enormous quantities in the lungs, as well as in other organs, and facilitates the pulmonary circulation.

THE FORTIETH ANNUAL MEETING.—We desire to call special attention to the fact that the time for the annual meeting of the Association is not far distant. All members and others that contemplate contributing papers to the Sections should communicate with the officers of the Section, in which their papers will be read, as soon as possible. We learn that excellent programmes

are already arranged for several of the Sections. In preparing papers for the Sections the rules of the Association, in regard to papers, should be borne in mind. These rules are printed in the department of Association News, where may be found also a list of the officers of Sections and their addresses.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held at Newport, R. I., June 25, 26, 27 and 28, 1889.

Special Attention is called to the following Rules of the Association:

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Association, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no

papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the American Medical Association on the day of 18 . ." (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

NOTICE TO EXHIBITORS.

Intending exhibitors should address Dr. Chas. A. Brackett, Chairman Sub-Committee upon Exhibits.

The following classes of applications will be entertained:

1. Medical books and stationery, charts and diagrams, busts, portraits, engravings, photographs, etc.
2. Hospital and ambulance plans and models.
3. Surgical instruments and supplies, general and special (gynæcic, obstetric, orthopedic, laryngeal, otic, ophthalmic, dental, etc.).
4. Microscopes, analysis outfits, and electro-galvanic apparatus.
5. Pharmaceutic products.
6. Rubber goods applicable to medicine and surgery.
7. Invalid furniture.
8. Invalid foods.
9. Sanitary appliances, as ventilators, filters, w. c. basins, traps, and similar necessities, and disinfectants.

As a large attendance is probable, while the space available for exhibits is comparatively limited, the advantage of early application will be perceived.

Choice of space will be given in accordance with the date of application.

Applicants should state the character of their proposed exhibits, that they may be assigned to their respective groups:

The Sub-Committee reserve the right of rejection, in case of apparent reason.

HORATIO R. STORER, M.D.,

Chairman Committee of Arrangements.

OFFICERS OF SECTIONS.

The first name given under each Section is that of the Chairman, the second that of the Secretary.

Practical Medicine: F. C. Shattuck, M.D., 135 Marlborough St., Boston; G. A. Fackler, M.D., 504¹/₂ Elm St., Cincinnati.

Surgery and Anatomy: N. P. Dandridge, M.D., Cor. 4th and Sycamore Sts., Cincinnati; W. O. Roberts, M.D., 1541 Second St., Louisville, Ky.

Obstetrics and Diseases of Women: W. H. Wathen, M.D., Louisville; A. B. Carpenter, M.D., 143 Euclid Ave., Cleveland.

State Medicine: J. Berrien Lindsley, M.D., Nashville, Tenn; S. T. Armstrong, M.D., U. S. Marine-Hospital Service, New York.

Ophthalmology: George E. Frothingham, M.D., Ann Arbor, Mich; G. C. Savage, M.D., Nashville, Tenn.

Laryngology and Otology: W. H. Daly, M.D., 71 6th Ave., Pittsburgh, Pa.; E. Fletcher Ingals, M.D., 70 State St., Chicago.

Diseases of Children: J. A. Larrabee, M.D., 1823 Baxter St., Louisville; Chas. G. Jennings, M.D., 544 Jefferson Ave, Detroit.

Medical Jurisprudence: Jas. G. Kiernan, M.D., Central Music Hall, Chicago; T. C. Evans, M.D., Cor. Ann and Aliceanna Sts., Baltimore.

Dermatology and Syphilography: L. Duncan Bulkley, M.D., 4 E. 37th St., New York; Wm. T. Corlett, M.D., Cleveland, Ohio.

Oral and Dental Surgery: F. N. Rehwinkel, M.D., Chillicothe, Ohio; E. S. Talbot, M.D., 125 State St., Chicago.

SECTION ON DISEASES OF CHILDREN.

Preliminary Programme for the Meeting of 1889.

The following named gentlemen have promised papers on the following subjects:

C. R. Earley, M.D., Ridgway, Pa., "Scarlatina."

John A. Robison, M.D., Chicago, Ill., "Treatment of Heart Diseases in Children."

J. C. Wilson, M.D., Philadelphia, Pa., "Abdominal Neuralgias of Children."

E. M. Brush, M.D., Mt. Vernon, N. Y., "Cows' Milk for Infants' Food."

David S. Booth, M.D., Sparta, Ill., "Epilepsy a Disease of Childhood."

The following have promised papers, but have not yet announced the subjects:

Edmund C. Wendt, M.D., New York, N. Y.

John A. Jeffries, M.D., Boston, Mass.

J. M. Keating, M.D., Philadelphia, Pa.

Wm. H. Edwards, M.D., Philadelphia, Pa.

Jerome Walker, M.D., Brooklyn, N. Y.

H. E. Pelle, M.D., Louisville, Ky.

W. B. Atkinson, M.D., Philadelphia, Pa.

Others that wish to read papers before this Section are requested to communicate with its officers.

SECTION ON STATE MEDICINE.

In addition to the list of papers published in *THE JOURNAL* of March 2, the following Committees will report, and papers be presented to the Section on State Medicine.

Report of the Committee on Uniform Medical Legislation in the United States. Dr. Perry H. Millard, Chairman. [At the last meeting this Committee was given another year to report.]

Report of the Committee on Fœticide. Dr. I. N. Quimby, Chairman. [This Committee was directed to report to the Section on State Medicine by resolution of the Association.]

"Medical Legislation in the United States," Dr. Perry H. Millard, St. Paul, Minn.

"Is it Detrimental to the Health of Passengers on Ship-board to Convey to Port the Bodies of Persons who Die at Sea of Non-contagious Diseases?" Dr. I. N. Quimby, Jersey City, N. J.

"Personal Disinfection in Scarlatina," Dr. L. D. Waterman, Indianapolis, Ind.

"The Climatic Causation of Consumption," Dr. H. B. Baker, Lansing, Mich.

"The Importance and Essential Needs of Local Boards of Health," Dr. W. C. Rives, New York, N. Y.

Announcement will be made in *THE JOURNAL* of the titles of the proposed papers as soon as the Secretary is notified.

SECTION OF LARYNGOLOGY AND OTOTOLOGY.

The Officers of this Section, which was created at the last meeting, have already received several promises from prominent specialists throughout the country, to read papers at the coming meeting. Several others have given partial promises, many of which, we believe, will soon be made absolute, and we feel assured already of a successful meeting.

We urge all laryngologists and otologists in the country, who have a local or National reputation, and who are in good standing with the regular profession about them to do something for the benefit of the profession through this Section. All are *specially requested* to send their names and addresses to the Secretary, whether they are likely to attend the meeting or not.

E. FLETCHER INGALLS, M.D., Sec'y,

70 State St., Chicago.

W. H. DALY, M.D., Pres't.

SECTION ON OBSTETRICS AND GYNECOLOGY.

We are pleased to learn from Dr. Wathen, of

Louisville, Chairman of the Section on Obstetrics and Gynecology, that he has the promise of forty papers for the Newport meeting, in June. The meeting of this Section will probably be one of the most interesting in the history of the Association, for nearly all of those who will read papers have done work of scientific excellence in obstetrics or gynecology. A programme of the Section will be published at an early date.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

Regular Meeting, November 8, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D.,
IN THE CHAIR.

Alvah B. Dearborn, M.D., of Somerville, Mass., was elected to active membership.

DR. W. S. BROWNE showed a

NEW DEVICE FOR USING ADHESIVE PLASTER.

The strip of plaster is cut in two and the ends are reunited by a strip of thin rubber gummed to the back side of the plaster. The pull of the rubber, after application, keeps the edges of the wound in apposition.

DR. WHITE referred to the use of a strip of silk tulle secured in place by collodion as an excellent dressing for wounds.

PATHOLOGICAL SPECIMENS.

DR. F. L. BURT showed a pair of *ovaries and tubes* that had been removed the day before. The patient, who was about 50 years of age, had suffered for the last twenty-five years, and more especially during the last six years. A laparotomy was performed, making an incision rather longer than usual. Pus-tubes at once presented at the opening, each the size of the double fist. They were very firmly adherent and were removed with difficulty, together with the ovaries. The patient was comfortable when the case was reported.

DR. G. W. JONES exhibited some *membranous strips* that came from a patient that had a history of an abortion last February, and an operation for lacerated cervix last May. Two weeks ago he confirmed her supposition that she was about two months pregnant. A day or two later, she brought him a membranous sac which she said came away from the vagina. The sac, which was filled with jelly and contained certain granules, had burst. Last Monday he found a similar membranous sac presenting at the os uteri, which he removed. Both specimens were somewhat pear-shaped, the size of a silver dollar, and were corrugated. He had not decided upon their character. There had been no pain or hæmorrhage.

DR. C. W. STEVENS said that he had once removed from a young unmarried woman, who believed herself to be pregnant, a very large collection of little cysts, which was probably a mole or a cystic degeneration of the placenta. Previous to the removal of the mass there had been considerable hæmorrhage. He would suggest that Dr. Jones' specimens might be of this character.

DR. H. O. MARCY exhibited *two sets of ovaries and tubes* that he had removed about four weeks previously. The histories of the two patients were so similar that each might represent the other. Both patients were in middle age. One had been an invalid for twelve years, of which time the last six years had been passed in bed. The other patient had been an invalid for seven years, most of which time she had been in bed. Both had great pelvic discomfort for the whole period of four weeks, and to such an extent that both had become morphine *habitues*. The operations were performed in the ordinary manner with an incision in the median line about 2 inches long. Through this, opening the ovaries were brought out one at a time, and the broad ligaments, while on stretch, were stitched across with a tendon by the shoemaker's stitch, which included the Fallopian tube close to the fundus uteri. The ovary and tube were then cut away, the peritoneal edges of the stump were sewed together with tendon, and the stump was dropped back into the pelvis. While these operations were being performed, a stream of nascent oxygen gas was directed downwards by means of a tube, the outlet of which was about a foot above the abdominal incision. Thus used nascent oxygen is claimed by some to be antiseptic. There is no foundation for this claim, but it is aseptic and, moreover, it is very invigorating to the operator and his assistants, and, in case of difficulty with the breathing of the patient, its easy accessibility might be very beneficial in restoring her respiration. These ovaries are all enlarged and they were still functioning when removed. The tubes are large and convoluted, and some of the processes of the fimbriated extremity are much thickened.

DR. MARCY also showed a *very large fibroid* that he had removed *per vaginam* from a patient, æt. 41, who had been healthy till two years ago, since when she had been constantly flowing to a greater or less extent. The os uteri was dilated to about 1½ inch and the whole pelvis was filled. The question arose, could the tumor be removed *per vaginam*? The attempt was made and it was removed in nine or ten pieces. The spoon-saw was first used and then the portion thus separated was cut away with curved scissors. This was repeated till the whole tumor had been removed. The cavity of the thin-walled uterus was then packed with iodoform wool. The patient made a good and rapid convalescence, and the uterus measured only 3 inches when she left the hospital.

The tumor weighed about 3 lbs. Dr. Marcy said that two years previously he had removed in pieces a tumor which weighed 4 lbs., and that this is the largest on record as removed *per vaginam*.

DR. E. C. KELLER asked if the hæmorrhage continued at the menses?

DR. MARCY replied that the menstrual flow had been normal.

DR. KELLER said some time ago she had removed a tumor that weighed 14 ozs. The patient did well, but at the menses there was profuse flooding, which resisted everything till the ext. *hydrastis canadensis fl.* was used, and this acted like a charm. The dose was 20 drops three times a day. The uterus had decreased much in size and there was nothing in the cavity of the uterus.

The Society then discussed

SOME POINTS IN THE APPLICATION OF ELECTRICITY AS A MEANS OF TREATMENT OF FIBROIDS OF THE UTERUS.

DR. F. L. BURT referred to the pathological specimens exhibited by himself and remarked that they showed how useless it would have been to expect any good result from the use of electricity in this case, although it seemed to be a suitable case for its employment. As a matter of fact it had been tried, with the result of causing more pain and affording no relief. If administered in too strong current or for too long a time, it might produce sepsis and death. This was a case in which puncture would have been dangerous. Without doubt, electricity in suitable cases works well.

DR. C. W. STEVENS spoke of Apostoli's abdominal electrode of clay as a nuisance, according to his experience after faithful trials. It is filthy and wet, and it is difficult to keep it at the right temperature. In its stead he has had made and now uses an electrode (now exhibited) made of flexible sheet brass, rectangular in shape and about 7×9 inches in size. This is covered on its under side by a pad of several thicknesses of antiseptic gauze, cut in the same shape as the electrode and somewhat larger than it in size, so that, when the edges of the gauze are folded up over the ends of the brass plate, they can be held firmly in place by rubber bands slipped over the ends of the plate. This plate can be easily bent into suitable shape to fit the abdomen of any patient. It is simple and clean and, if desirable, the physician can have different ones for each patient. In using, the antiseptic gauze is wet sufficiently with hot water. The other pole he sometimes uses intrauterine and sometimes intravaginal. He has noticed the external measurements diminish 2 inches.

DR. A. P. CLARK said that McIntosh's diaphragm is a very ingenious instrument and it works well. He asked if Dr. Burt referred to galvanism in his remarks. If he had not meant

galvanism Dr. Clark might take exceptions, for he has found faradism to be very beneficial.

DR. BURT said that he has been using an abdominal electrode that he likes very well, and he believes it to be better than the one shown by Dr. Stevens. Cloth, of any desired size and number of thicknesses, is wet with warm water and laid on the abdomen. On top of this is placed a plate of block tin, which is heavy enough to stay in place and is a good conductor.

DR. H. O. MARCY asked, what is the effect on the skin of electricity passing through wet cotton?

DR. STEVENS replied: There is produced a temporary erythema or redness by congestion of the capillaries.

DR. MARCY: What strength of current is used?

DR. STEVENS replied that he used no galvanometer and that he has been guided by the feelings of the patient.

DR. BURT replied that a current of 100 milliamperes, which is the strongest he has used, produced a deep reddening of the skin with a sensation resembling that given by a mustard plaster, and this description of it is very frequently used by the patients. In a very few patients an eruption is produced, though he cannot tell why it is so. This is very similar to the eruption of chickenpox. There are vesicles filled with fluid which is later changed to pus.

DR. STEVENS said that he had once seen an eruption similar to that described by Dr. Burt, and he had thought it due to the strength of the current.

DR. MARCY: Is the skin cool or hot to the hand after having used the cotton electrode?

DR. BURT: It is warm at first, but it cools rapidly.

DR. MARCY said that he has used Martin's electrode, which contains a considerable amount of cold water through which the current passes, and yet the patient at once complains of warmth. He feels sure that the thin cotton pad could not be used when such high currents are employed as he is accustomed to use.

DR. BURT remarked that he generally employs a current of from 60 to 70 milliamperes. The patient never complains after it has been used and not especially at the time. He uses hot water for wetting his pad.

DR. MARCY said that Apostoli emphasized that the electrode must be sufficiently cold to cause the patient to shrink, when it is first applied, and that high currents must be used. Dr. Marcy himself has used as high as 350 milliamperes in few cases of large growths. Apostoli says that we should intensify the current, and he sometimes employs stronger currents than Dr. Marcy has used. Dr. Marcy said that both Apostoli's and Martin's electrode fits all of the irregularities of the abdomen. Martin's electrode consists of a hollowed metallic disk, across the bottom of

which parchment is stretched. The disk is perforated to allow filling with cold water, and the opening can then be stopped with a cork. About a pint and a half of water is used.

DR. BURT said that cold is not necessary when a light current is used and that heat is more agreeable than cold.

DR. WHITE: How long should a current of 100 milliamperes be used?

DR. BURT: From six to eight minutes.

DR. WHITE: How long should the high currents be employed?

DR. MARCY: From five to eight minutes with 350 milliamperes.

DR. WHITE: How often should they be employed?

DR. MARCY said in reply, that in a few cases he has employed it daily until five or six applications had been made. The positive pole in the uterus will necrose tissue, and hence there is pain and soreness. According to Apostoli sepsis should be emphasized; for the septic ferments may easily grow in such partially necrosed tissue, which forms a good nutrient material for them. About two and a half years ago there were reported here in Boston 12 cases with 2 deaths. These may have been caused by sepsis. Apostoli says that the vagina should be thoroughly clean.

DR. WHITE asked if any accidents had been caused by Apostoli's method. To this no one replied. He then asked if any good had resulted from Apostoli's method.

DR. W. S. BROWN offered the criticism that this was too narrow a question, since Dr. Cutter had used electricity for fibroids many years ago.

DR. MARCY said that Dr. Cutter used to employ great currents and that he used no measurements. Once Dr. Garratt had interpolated a galvanometer, which showed that the current was passing through from pole to pole, and thus answered the criticism that it passed around. At this time it was believed that electricity was too dangerous to be used. But the great secret of Apostoli's success is the use of one pole in the uterus and the large abdominal pad. In reply to the question, whether any good had resulted, he would say that at first he was a doubter, but after further conversation with Apostoli, when he came to Boston, he began to follow him. Dr. Marcy has now made several hundred applications to about twenty patients. Each patient thinks herself better, and he himself is sure that some are better. In one case, in particular, the woman could not walk across the street nor ride in a horse-car before the applications. The growth filled the pelvis and pressed on the pelvic organs. She received from twelve to fifteen applications of a current of 250 to 350 milliamperes two to three times a week. Some months later the growth had diminished two-thirds or three-fourths, and the woman is now at work at her household duties.

DR. WHITE: How soon after the application should the patient be permitted to leave the office?

DR. MARCY replied that he never uses electricity for this purpose in the office. Dr. Smith, of Montreal, does so use it in some cases with apparent safety.

DR. BURT replied that he causes the woman to lie down for about half an hour after receiving an application of 50 to 75 milliampères. He had recently a patient who had nearly flowed to death, and there was necessity for either electricity or removal of the ovaries. He gave the positive current on the uterus with an aluminum wire electrode, which is claimed to be safe, but it does corrode, and when the eschar comes away there may be hæmorrhage.

Stated Meeting, December 13, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D.,
IN THE CHAIR.

DR. W. SYMINGTON BROWN read a paper entitled

CHRONIC CYSTITIS IN WOMEN

in which he said: The bladder is almost as movable as the uterus. We are told in books that its transverse is greater than its vertical diameter; but I suspect that the proportions must be reversed when it holds a gallon of urine, as it sometimes does. Then, again, we are told and told truly, that highly concentrated urine irritates the bladder, and that the irritation may even end in cystitis. But it is not so generally known that "hysterical urine," of low specific gravity, almost destitute of saline ingredients, is also a common cause of irritation and pain.

Acute cystitis is a very rare affection in women; some authors say that it never occurs, except as a sequence of traumatic injuries. At one time many physicians believed that cystitis resulted from using forceps in labor; and I have no doubt that this erroneous belief acted as a bugbear to curtail the employment of that useful instrument. In our day, very few competent practitioners refrain from using forceps on this account. The probability is that cystitis more frequently results from long-protracted labors which should have been shortened by applying forceps or by turning. I have seen only one case of acute cystitis in a woman (apparently caused by swallowing tincture of cantharides with the view to produce abortion), and that case may have been due to other suspected agencies. I have also seen three cases in men, during our civil war, resulting from gunshot wounds in that region. Unfortunately, chronic cystitis is far from being a rare affection in woman. Many of the cases occur after tedious labors; a few are caused by errors in diet, such as highly spiced food, fermented liquors,

etc.; but in my opinion, the larger number result from not emptying the bladder often enough. A false modesty and a genuine lack of opportunity combine to bring about this disastrous effect. It is a curious fact in the history of modern civilization that, with all our pretensions to gallantry, so little has been done in large cities to accommodate women in this respect. Some one has asserted that the amount of soap used in a nation is a fair test of the advance it has made in civilization. I would suggest, as an additional gauge, the number of public urinals for women and men.

When cystitis has lasted for years, the mucous membrane of the bladder may be detached in shreds, and the inflammation spread to the muscular and even to the serous coats. In most cases of long standing the bladder is contracted to one-half, or even less, of its normal capacity. The mouths of one or both ureters become thickened and congested, sometimes occluded, and the urine undergoes changes incidental to decomposition. Small quantities of blood, pus, and mucus frequently appear in it; and, instead of the normal acidity, it is voided in an alkaline condition. Under these circumstances, it is possible, and even probable, that the inflammation may progress upwards, affecting the ureters, and, finally, one or both kidneys. And it often happens that the cystitis excites a reflex pain in neighboring organs, sometimes in parts at a considerable distance from the original seat of inflammation. The treatment essentially consists in affording the bladder as much rest as possible, and in other ways allaying the inflammation. But to give rest to an organ constantly in use, night and day, must prove a somewhat difficult task. I have quite recently had a case, which occurred in a married man with a severe gonorrhœa, who was seized with typhoid fever, and after the usual watery stools for two days the urethritis abated. I attribute the reflex cure to the diarrhœa. Idiosyncrasies seem to affect the bladder even more than other organs; and in women more than in men, age must be taken into account. Before puberty, during the child-bearing period, and after the menopause, constitute eras during which bladder affections essentially differ. The following interesting (personal) case belongs to the last mentioned period. I first visited Mrs. B. on Christmas-day, 1887. She is a married lady with a grown-up family, about 63 years of age, who had always enjoyed health until 1884, when she began to suffer pain in the bladder, accompanied with frequent calls to urinate, night and day. During the whole three years she has never been able to retain her urine for more than an hour at a time, and sometimes she was obliged to use the vessel every half hour or so. Mrs. B. had been under the care of several physicians, regular and irregular. Although naturally of a placid, happy dis-

position, her face showed marks of suffering and anxiety. Pulse 85; temperature 99.5°. Her urine, drawn with a soft catheter, contained pus, mucus, and crystals of the triple phosphates. There was no uterine or ovarian disease. A small caruncle, growing at the lower edge of the meatus urinarius, was removed by means of a wire snare. A similar but smaller growth was found at the neck of the bladder, and this was also removed. For a period of six weeks, she took a tablespoonful of the following solution every four hours during the day; and also used it as an injection into the bladder every night and morning:

- | | |
|---------------------------------|--------|
| R. Benzoic acid, pure | ℥ij. |
| Biborate of soda | ℥iv. |
| Distilled water | ℥vj. ℥ |

She took lithia water as a drink for several weeks, with apparent benefit. All kinds of fermented liquor were absolutely forbidden. Her diet was carefully regulated. Salt meat, salt fish, pork, lobster, beans, highly spiced soups, fried food, and pastry were prohibited. The usual directions to overcome constipation were given. Attention was paid to position in bed, by raising the pelvis with graded cushions, so as to avoid contact of the urine with the *trigonum vesicæ*, the most sensitive spot in the bladder. At the end of six weeks the urine was free from pus and triple phosphates, and it could be retained about two hours. Early in May, 1888, she considered herself cured. As the bladder had become much contracted, I made an attempt, towards the close of the treatment, to dilate it by means of tepid salt water from a fountain syringe. Dilatation should be effected very gradually; for there is some risk of paralysis from overdistention; and it seems possible, when the ureters are abnormally dilated, that the kidneys themselves may be injured. Reference was then made to the efficacy of hygienic, comfortable surroundings, admirable nursing and a contented coöperation on the part of the patient.

DR. HENRY M. FIELD was especially struck with the allusion to the relief or cure of gonorrhœa by the revulsive action of a sharp hydragogue cathartic influence brought to bear upon the bowels; because this practical point in therapeutics was seldom illustrated. Some years ago a quack in Paris coined golden opinions and guineas by the use of an anti-gonorrhœal, which, upon analysis by Fabre, was found to consist of a tincture of colocynth. Fabre's method consisted in giving the patient half a tablespoonful of the tincture (one ounce colocynth pulp macerated in one pint hock or sherry) before breakfast every morning; this omitted every fourth day, and the treatment continued until twenty-seven to thirty doses had been taken. Dr. Field had had success with this remedy, when the balsamic treatment alone had failed. The patient

is thereby cleaned out, not alone as to the alimentary canal, but in blood-vessels; and the bitter of the tincture served as tonic and eupeptic. The application for similar principle in chronic systitis is obvious. He was surprised that Dr. Brown had not made allusion to the use of balsamic remedies. Dr. Field, for years, had made large account of turpentine and sandalwood oil. The very necessity of their elimination—their resinous matter being carried out of the system through the kidneys—assumed a local action of a partly counter-irritant and alterative character upon the cystic mucous membrane. They were not adapted to acute cystitis, but were very effective in the chronic variety of the disease. Quinia acts in much the same way. Dr. Field's first discovery of its virtue was an accident. He gave it to a patient who was nearly cured of inflammation of the bladder, but had reached the stage when he seemed to be standing still, simply as a tonic. The quinia took hold upon the bladder at once, and apparently completed the cure.

DR. A. P. CLARKE said that, in the main aspects, he coincided with the reader, especially in his remark that he had rarely seen cases of acute cystitis following childbirth. Retention of urine does often occur after laceration of the cervix and other injuries. Cystitis also follows caruncle, fissure of the urethra, and gonorrhœa. Cases of idiopathic cystitis are not as common as has heretofore been believed. Cystitis often results from falls, blows, flexure of the uterus, great distention of the bladder, and unskillful employment of the catheter. The extension of inflammation from vulvitis and vaginitis is an occasional cause of vesical disturbance. So also is the increased vascularity in the parturient women liable to produce over-distention and vesical inflammation. He regarded the mucous coat of the bladder as most sensitive to inflammation; thence the inflammation is liable to extend to the other coats and adjacent structures. Sometimes the disease extends to the uterus, the kidneys, and peritoneum. Under such circumstances treatment will often prove quite unsatisfactory. He is accustomed to use the hot-pack, hot douches, and baths. Electricity (in the form of Faradism), with one pole near the urethra and the other over the bladder, gives relief after the lesions have been attended to. Saline laxatives and mineral waters sometimes help. Bland diluents are of the greatest benefit, especially where the urine is loaded with abnormal products. Opiates are to be avoided as much as possible, and, when used, their local employment is to be preferred. Benzoic acid, in combination with borax, mentioned by the reader, is an old remedy, but it has been a favorite one with the speaker since its endorsement by Dr. Emmet several years ago. Washing out the bladder is often of much benefit; but extra care should be exercised lest the mucous

and muscular coats (which have frequently undergone degeneration) be overstrained, and permanent injury follow. In cases of protracted inflammation, washing out the bladder with a solution of nitrate of silver, (30 grains to the ounce) often yields excellent results. Attention should also be given to the diet. Butcher's meat should generally be avoided, as it is liable to increase the urates and other morbid products which irritate the urinary passages. Dr. Clarke had seen a few cases following delivery; but there was generally a previous history of catarrh in the bladder or gonorrhœa. In one case a large calculus was found in the bladder. Dr. Emmet's operation for an artificial vesico-vaginal fistula is a valuable expedient in severe cases. Dr. Clarke also mentioned a case in his own practice which was permanently relieved by rapid dilatation of the urethra. Since then he has continued to resort to that method in cases where tenesmus is a marked feature, and where the parts around the meatus are contracted and hypertrophied.

DR. ORIS E. HUNT asked if an attack of cystitis occurring a week after delivery in a forceps case would not be called acute traumatic cystitis? [Answer by Dr. Brown: Yes; but I have not seen one.] Dr. Hunt said that he has seen it several times. Little benefit can be obtained except: *a.* From position, which should be horizontal, with the pelvis a little elevated. *b.* From the hot pack (especially in an attack of acute cystitis). A napkin, folded in several thicknesses and of sufficient size, is wrung out of hot water and placed on the abdomen over the bladder. This should be covered with rubber tissue, and this in turn with several thicknesses of flannel, covering a considerably larger extent than the wet napkin itself, and the whole held in place with a bandage. It should be changed twice a day. *c.* From continual drainage. For this purpose the hard rubber catheter has failed; but a soft rubber male catheter of large size, introduced with the aid of cocaine, and retained by plasters around the body, serves an excellent purpose. This may be retained for weeks, the end of the catheter being put into a bottle, which may be kept in the bed to catch the urine. *d.* From internal irrigation through the kidneys. Large quantities of water must be drunk. The patients will not take Cochituate or other common water, but they will drink two or three quarts of Poland water. This not only dilutes the urine, but it actually washes out the urinary tract. *e.* Also from external irrigation, which is done by attaching to a fountain syringe a catheter with a forked tube, provided with a stopcock. The bladder is first filled; but should not be too much distended, and then it is allowed to run out and the bladder is again refilled. This is repeated for ten or fifteen minutes. For the irrigation fluid plain water is used, or a little borax may be added.

The temperature of the water is a very important point; before stating the degree that he considered best, the speaker asked Dr. Brown what temperature he preferred. [Answer by Dr. Brown: Blood heat, *i. e.*, about 100° F.] Dr. Hunt said that he also considered this to be the proper degree, and he has seen harm result from the use of water of too low temperature. He has not derived much benefit from internal medication. In the late stages he uses buchu, but does not believe that it does much good, except as a placebo.

DR. J. F. FRISBIE said that he had not had much experience in this class of cases. The last case he saw followed a very severe childbirth. In reply to his questions he was told that the woman had passed urine freely. On the third day there was much pain, and then he found out that there had been only dribbling. She had acute cystitis, which lasted fourteen days. He prescribed sulphate of magnesia, and she drank Apollinaris water freely. The wet pack was used, and there was a good recovery.

DR. L. F. WARNER said that this class of cases is one of the most difficult that he has been called upon to treat. He has seen a great many cases of acute cystitis, and he believed that most of the chronic cases were once acute. Occasionally cases are seen which have been caused by prolonged retention, *e. g.*, in the case of shop-girls. The urine decomposes in the bladder and it contains bacteria. He thought that Dr. Hunt's treatment was good, but that it alone would not cure very bad cases. In acute cases he always gives calomel, Dover's powder, and hyoscyamus. Fifty years ago dependence was largely placed on derivatives in the treatment of gonorrhœa. Epsom salts were always used, and the patients learned to expect them. In chronic cystitis he had obtained the best success from the use of irrigatives, and he prefers a solution of corrosive sublimate, followed by iodoform. He uses a double canula with a stopcock, and a fountain syringe. He first washes out the bladder thoroughly with water at 100° F. The bladder is gradually filled with water till the patient begins to complain, then the stopcock is opened, and an outflow is made, while at the same time the corrosive sublimate solution is allowed to run in. It is quite important to keep the bladder distended, so that the fluid may come in contact with all portions of the mucous membrane. The irrigation is continued for some time, and is followed by an injection of iodoform, which is left in the bladder. The urine should be kept as nearly neutral as possible. In reply to the question as to the strength of the solution of corrosive sublimate that he would recommend, Dr. Warner said that the sensibility of patients varies: one will bear 1 to 5,000, while others will not bear 1 to 10,000. He begins with a weak solution and feels his way along. Sometimes a douche into the bladder of a solution of

quinine (*e.g.*, a drachm to a pint of water) will give much relief. A solution of the sugar of lead was used in one case. He emphasized the importance of getting the system into as good a condition as possible to secrete healthy urine.

DR. FRISBIE asked if it is especially advantageous to have the water boiled before using?

DR. WARNER: I don't know about that. It is always easier to bear than cold water.

DR. HUNT asked if frequent micturition is not often relieved by drainage by means of a retained catheter?

DR. WARNER replied that that is true if the patient can bear it. The effect of cocaine, which has been suggested, is not lasting.

DR. W. S. BROWN emphasized that the continued use of cocaine is dangerous on account of its constitutional effects.

DR. F. L. BURT said that this is a most important class of cases, and one most difficult of treatment. Some cases can only be cured by making an incision into the bladder through the vagina, *i. e.*, by making an artificial fistula, and thus securing drainage. Irrigation is an important factor in the treatment. In one case, a douche of corrosive sublimate (1 to 2,000) cured a cystitis of twenty years' duration. Some cases, however, are not apparently affected at all by the irrigation. He has lately seen a case in which a 1 to 500 solution had no effect. He believes that one important cause of cystitis is the continual flowing over the meatus of a 1 to 2,000 solution of corrosive sublimate for an operation. To avoid this, after commencing with the sublimate solution, he concludes the operation by substituting hydro-naphthol.

DR. J. H. WOODS said that he saw a case two years ago that was cured by the use of Poland water. The young man had had an attack of gonorrhœa, and he was passing very acid urine. Alkalies were administered without any effect. After a time he passed into the hands of a homœopath, who flushed him with Poland water and cured him.

DR. A. L. NORRIS had seen a few cases following difficult labor. He had been accustomed to treat them with irrigation, for which he employed a double silver catheter. These douches were given twice a day for several days, with excellent results. Hot fomentations are of benefit, as also are alkalies and anodynes given internally.

DR. HUNT asked if the catheter had been used in these cases before the cystitis had appeared?

DR. NORRIS replied that it had; but that he was accustomed to use a new catheter for each patient.

DR. HUNT said that he had a suspicion that many attacks of acute cystitis were caused by the introduction into the bladder of foul discharges from a catheter that had not been thoroughly cleansed after using.

DR. BURT said that the catheter was a very important factor in the causation of cystitis. Many old men use their catheter several times a day, lay it upon their bureau, and have no bad results; but women cannot do so. Not only must their catheter be carefully cleansed, but the external parts must be washed.

DR. NORRIS had never thought it necessary to wash the parts before using the catheter in a parturient case; but he thought the point worthy of consideration.

DR. BURT thought it a good plan to wipe the meatus with cotton wet with some antiseptic solution, and then press it down so as to separate the vulva, and leave it there.

DR. HELEN L. BETTS referred to attacks of vesical irritation due to pressure of the clothing, which were relieved by the removal of pressure and weight.

DR. HUNT wished to emphasize the point noticed by the reader of emptying the bladder as often as the desire occurred.

DR. S. N. NELSON said that the urine in cystitis contains a greater or less amount of pus in the sediment, and there is present a small amount of albumen proportionate to the pus. Bacteria termo are found in great numbers. The most important factor in the causation of cystitis, whether in man or woman, is the introduction into the bladder of bacteria, and, as a consequence, a fermentation of the contents of the bladder is set up. In this way may be explained most of the cases which have been referred to as occurring during an attack of gonorrhœa, or after labor. The means by which the germs are most commonly introduced is the catheter, which has not been properly cleansed. To avoid this, it is a good plan to soak the soft rubber catheter in a solution of corrosive sublimate (1 to 2,000) before its introduction; and, in the case of a patient who requires its use constantly, it may be left in soak when not in use. The meatus and vulva of the woman should be carefully cleansed with sublimate solution before the introduction of the catheter, and it is always a good plan to bring to aid the sense of sight when passing the catheter. If, unfortunately, in spite of all these precautions, an attack of cystitis is induced, or if a case is seen where the chronic stage has been reached, Dr. Nelson believes that more good can be done by local than by systemic treatment. In acute cystitis the drinking of large quantities of water so as to flush the uriniferous tract is an excellent procedure. It matters little in what form the water be taken, so long as the quantity is large. The imbibition of mucilaginous substances is desirable; and for this purpose flax-seed and slippery-elm teas are to be recommended. As an adjuvant, the neutralization of the urine until litmus paper no longer turns red is a great comfort to the patient; for, in acute cystitis, the urine has

become unduly acid, having undergone the acid fermentation in the bladder. This is easily effected by administering citrate of potassium. Local treatment, however, is the most effectual, both in acute and in chronic cystitis; and for this purpose irrigation by means of a double-tube catheter of soft rubber is best. The irrigation fluid should be a solution of corrosive sublimate as strong as can be borne. This will vary from 1 to 10,000 to 1 to 2,000, according to the temperament of the patient and the condition of the mucous membrane of the bladder. The water should be boiled to kill the germs contained therein, and then cooled. In acute cystitis a solution of boric acid may be advantageously employed for half an hour to an hour, in order to thoroughly cleanse the inner surface of the bladder, and the irrigation may then be completed with the sublimate solution, which should run from 10 to 20 minutes. The irrigation fluid is most effectual when somewhat warmer than blood heat, say about 102° F. After washing, the injection of an emulsion of iodoform is a good thing. The irrigation may be employed as above, once or twice a day, in aggravated cases.

DR. W. S. BROWN, in closing the discussion, said that he had left out the surgical treatment in his paper. There are many cases in which it is necessary to open the bladder by making an artificial vesico-vaginal fistula. This is good practice in hospitals, but it cannot be carried out so well when the patient is at home. Dilatation of the bladder should be carefully and cautiously attempted, because in some cases the bladder wall is thin, the mucous and muscular coats have disappeared, leaving only the serous coat, and rupture may occur after even moderate pressure.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

Radical Cure of Inguinal Hernia—Surgical Treatment of Uterine Retroversion—New Method of Shortening the Round Ligaments—New York County Medical Association.

At the first regular meeting of the Academy of Medicine at which the new President, Professor Loomis, occupied the chair, Dr. Charles McBurney, whose admirable operation has of late become so popular among the surgeons of this city, read a paper on *The Treatment of Inguinal Hernia with Reference to Radical Cure*. As an introduction to the exposition of his own operation, which he said had been the result of much thought and labor, he presented some of the considerations which had led him to attempt a procedure different in some respects from any that had preceded

it. In 1886 he met with some cases in which a return of the trouble after operations for the radical cure of hernia convinced him that one great essential to success in any such operation was the complete removal of the sac. The first predisposing cause of hernia he believed to be the pouching of the peritoneum at the internal ring, and therefore, in order to cure a hernia, it was necessary first to prevent laxity at this point, and then to support the peritoneum firmly at this point. He referred to various procedures designed to completely eradicate the sac, and gave a somewhat detailed description of Macewen's method. This operation, when practicable, he said, undoubtedly removed the sac; but it was often difficult or impossible to carry out. In selected cases, however, remarkable results had been obtained with it. Ball's method of twisting the sac he spoke of as a somewhat blind one, not free from serious objections; while some sacs also were altogether untwistable.

In his own operation Dr. McBurney splits the anterior wall of the inguinal canal all the way up to the internal ring. This procedure he supposed at first was original with himself, but he afterwards learned that it had been previously practiced by Riessel. This, he said, exposed the whole length of the sac, and when this had been done the neck of the latter could be disposed of either by ligature or by suture. In this way it was very easy to restore to the peritoneum the natural smoothness which he regarded as another of the great essentials to success in any operation for the radical cure of hernia. In all cases where it is applicable he much prefers the ligature to the suture. The only certain method of closing the entire canal except that portion of it occupied by the cord, he went on to say, he believed to be the open treatment of the wound, and even this was very difficult in some respects. It was requisite, for instance, that the whole wound should be packed extremely closely in order to secure granulation throughout its entire length. The objection had been raised against cicatricial tissue that it melts away and in time yields, and it had also been urged that cicatricial tissue does not prevent the frequent occurrence of ventral hernia after laparotomy; but he was firmly convinced that the cicatricial tissue here was sufficiently strong and permanent for all practical purposes, while the circumstances after the operation referred to were entirely different from those met with after laparotomy. Some operators had practiced the method of sewing up or narrowing the internal ring; but in reality, since the ring was naturally open quite wide, the stitches were of no avail in narrowing it.

He then proceeded to give the details of the operation employed by him for the past two years. Careful antiseptic precautions having been taken, a free incision is made, beginning a little outside the internal ring, and this is rapidly deepened

over the whole length of the canal. The canal, when reached, is split up to the outer edge of the internal ring, and the deeper layers of the sac having been dissected off, the cord is separated from the sac up to a point a little within the abdomen. The sac is freed from all adhesions and omental attachments, if there are any, and is then held high up from the internal ring, in order to prevent the return of any portion of intestine or omentum; when a ligature is applied at the very highest point. In congenital hernia, however, it is often necessary to suture, instead of ligating.

The wound is left entirely open, and from four to eight stitches are used to fix together the skin and the tissues which form the upper wall. As many more are employed for the lower wall; but as the wound is unnecessarily wide, some tendon sutures are usually passed deeply through the skin and superficial fascia. Iodoform is freely dusted about the wound, and then it is very thoroughly packed with iodoform gauze. The rectal end of the wound, however, is sewed up without a packing, and a drainage tube inserted at its lower extremity. Great care is used in making the external dressings, and in order to prevent contamination by urine rubber bandaging is employed in the case of adults and a plaster of Paris casing in children. Frequently, also, the urine is drawn with a catheter for several days succeeding the operation. At least five or six weeks are required for the healing, but Dr. McBurney believes that this comparatively long period in the prone position is time well spent in such cases. None of his patients are allowed to wear a truss or support of any kind after the operation, as he regards such appliances as positively injurious under the circumstances.

The advantages which he claims for the operation are as follows: 1. It is the only method in which the sac is completely obliterated. 2. The walls are very firmly united throughout their length. 3. The wound being open, septic complications are avoided. 4. The rapidity with which the operation can be performed renders it applicable in all varieties of cases. He said he had now employed this method in thirty-six cases. There was one fatal case, but this result was due to alcoholism. In three the wound became infected and the healing was slow; although there was no general sepsis in any of them. In one case orchitis was set up, and in one there was a relapse of the tumor; the cause of this relapse being without doubt, in his opinion, the fact that the sac was not ligated sufficiently high up. In conclusion, he said that within the past week he had either personally seen or heard from thirty-one of the cases, and that the result in all was thus far perfect. Of the remaining cases, two could not be found, and two were still under treatment. The various steps of the operation were very clearly shown by means of large colored drawings taken

from life, and at the end of the paper Dr. McBurney presented a considerable number of the cases operated on for examination.

The surgeons who took part in the discussion were all unanimous in according the highest praise to the operation. Dr. L. A. Stimson, the first speaker, thought Dr. McBurney was deserving of special thanks for his use of the cicatricial packing to the peritoneum, as he thus came squarely out against the ancient idea that cicatricial tissue was weak and untrustworthy. One of the chief advantages of the operation, and one which had not been particularly dwelt upon in the paper, he said, was the very great freedom from the risk of septic processes which characterized it. There was no necessity for drainage, and no drainage was employed except at the lower end of the wound in the scrotum; the wound above being left entirely open. As to the simplicity of the operation in the matter of ligating the neck of the sac, and restoring the peritoneum to its normal state, he had nothing but the warmest admiration to express for this also.

To realize the full advantages of the operation it was only necessary to consider the alternative measures which were at our disposal for treating the canal; all of which were comprised in an attempt to restore the original canal. In many old hernias, however, there was in fact no longer any canal. The internal ring was dragged down until it overlapped the external, and there remained simply a hole covered on one side by the peritoneum, and on the other by the skin and subcutaneous fascia. There was a complete absence of the valvular arrangement of the sides met with in the normal canal, and while many surgeons had attempted to restore this valve-like arrangement, they had always failed. Now, if we could not restore the canal, some alternative for this must be sought; and this formation of a plug of cicatricial tissue for supporting the peritoneum seemed to him a most excellent device.

Dr. Gerster, while expressing great admiration for the McBurney operation, thought it was as yet too soon to decide as to its permanent value; time being the only test for such procedures. In many old cases of hernia, with widely dilated ring, he did not consider it necessary to slit up the anterior wall of the canal, as he believed that the upper part of the sac could be reached sufficiently well without this.

Dr. Abbe said it was perfectly true that we were obliged to leave the question of radical cure to time, but nevertheless he thought surgeons ought in the meanwhile to express their opinions in regard to the various methods advocated. During the past year he had performed Dr. McBurney's operation in seventeen cases, and he felt entirely convinced that it was the best that was now at command. In all he had operated in 117 cases, and fifty-two of these were by Macewen's method,

by which he had been greatly attracted. Macewen claimed that other operators did not succeed with it as well as he himself because they did not operate in the right way; but if the procedure was so difficult that no one but Macewen could perform it properly, it was scarcely worthy of the confidence of the profession. He had now abandoned all other methods for Dr. McBurney's, and one of the greatest advantages of the latter he considered its simplicity in general practice. He had not as yet, however, felt willing, like Dr. McBurney, to leave his patients without a truss after the operation.

A considerable number of other speakers also took part in the discussion. In concluding it Dr. McBurney said in regard to the test of time that no results could, of course, be claimed if it were said arbitrarily that we must wait ten years before deciding as to the validity of the cure in any given case. While, however, longer time was certainly to be desired, he thought we could at least study the principles that ought to guide us in such operations. He had not, with a single exception, refused to operate in a single case; the exception being an old man suffering from advanced Bright's disease and in a generally broken down condition. In every case except the one in which the relapse occurred he was quite satisfied that the sac was completely obliterated and the peritoneum rendered smooth. As to omitting to split the canal in certain old cases where the ring might be perhaps 2 inches in diameter, as suggested by Dr. Gerster, he claimed that even in this class of cases the sac could not be obliterated unless the canal was slit up so that the ligature could be applied at the highest possible point. Although he hoped for the contrary, it might be that in the course of time some of his cases would relapse. Up to the present, however, with the exception of the one mentioned, he had failed to find any evidence of threatened or commencing recurrence in any of them.

At the last meeting of the Section on Obstetrics and Gynecology of the Academy Dr. W. Gill Wylie, who is widely known as one of the boldest and most successful operators among American gynecologists, read a paper on *Surgical Treatment of Retroversion of the Uterus with Adhesions, with a New Method of Shortening the Round Ligaments*, in which he expressed views which not very long ago would have been very generally pronounced as decidedly "advanced," but which have of late been steadily gaining ground among many of our most able specialists in this department. Dr. Wylie believes that in nine cases out of ten where there is retroversion with adhesions the tubes and ovaries are diseased, and consequently, that any treatment which does not involve the uterine appendages, if these are diseased, is not only useless but dangerous. He expressed himself strongly on this point because

he finds that many still treat such cases with pessaries, and that even quite young teachers of gynecology still practice and teach the use of the uterine repositr, an instrument that for many years he has considered obsolete and dangerous, since by opening the abdomen it has been found that in the vast majority of instances retroversion with adhesions means salpingitis, local peritonitis, etc., and it is now known why, as a result of trying to break up adhesions years ago, such patients had so many attacks of so-called cellulitis.

While in some cases the ovaries and tubes are not involved, he said we could not in all instances be sure of this without performing laparotomy, and when the abdomen has once been opened, he has devised a simple and efficient way of fixing and holding the uterus forward. Having freed all adhesions, he catches up the round ligament, at a point about midway between the fundus of the uterus and the pubic bone, with a pair of pressure forceps, pulls it up through the abdominal wound, and with a scalpel scrapes the peritoneum on the inner side of the ligament, so as to make it raw. He then folds together the two halves of the ligament and brings them in close apposition by means of two or four strong silk ligatures passed around and slightly into the ligament, so as to hold the folds of the latter firmly together, but not using sufficient force to cut into or destroy the ligament. Afterwards he may make still closer apposition, if this is indicated, by means of finer and more superficial sutures. These steps are then repeated on the other round ligament, and the wound closed.

This procedure, he states, is easily carried out, and if the sutures are not placed deep enough to injure the bladder or include a ureter, he considers it about as free from danger as an exploratory incision. He thinks it is much to be preferred to the so-called hysterhaphy, and is much better than Polk's suggestion to close the abdominal wound and do Alexander's operation after healing up the adhesions. Dr. Wylie has done this operation for the past three years and with excellent results in some cases, and he says that long before this, when removing the tubes and ovaries, he so included the round ligament in his pedicle ligature as to shorten it and sustain the fundus forward.

At the February meeting of the New York County Medical Association formal addresses were delivered by Dr. J. R. MacGregor, the retiring President, and Dr. C. S. Wood, President-elect of the Association. The former was mainly devoted to the consideration of the relations of medical science to the various interests of the community, the advancement of the standard of medical education, and the advantages to be derived from active work in medical societies; while the topic proper of the latter was the *vis medicatrix nature*. This Dr. Wood believed to be for the

most part a delusion and a snare, and, denouncing the so-called expectant plan of treatment of disease, he stated that his faith in drugs had only increased with his experience in practice. A portion of the address was taken up with suggestions for increasing the efficiency and scientific work of the Association.

P. P. B.

MISCELLANY.

MEDICAL GRADUATES.—Following are the numbers of graduates of medical schools that have closed the session of 1888-89: *Ensworth Medical College*, St. Joseph Mo., 9 graduates; *Michigan College of Medicine and Surgery*, 11; *Medical Department of the University of Louisville*, 128; *Medical College of Indiana*, 27; *Southern Medical College*, Atlanta, 50 (?); *Medical Department of Georgetown University*, 14; *Medical College of the State of South Carolina*, 25; *Medical Department, State University of Iowa*, 43; *Miami Medical College*, 12; *Medical College of Ohio*, 85.

THE LACAZE PRIZE of 10,000 fr. has been awarded to Dr. Malassez, Director of the laboratory of histology of the College de France, for his work on tuberculosis.

PUBLIC MEDICAL LIBRARIES.—In the proceedings at the reception given to Dr. Oliver Wendell Holmes on the occasion of his presenting his library to the Boston Medical Library Association, Dr. R. M. Hodges, president of the Association, gave some facts regarding the public medical libraries of this country. "First," he said, in point of time, is the library of the Pennsylvania Hospital, founded in 1760; second, that of the College of Physicians, in Philadelphia, founded in 1788; third, the New York Hospital library, in 1796, etc. Of course, the library of the surgeon-general's office has surpassed in size all these, having a large annual appropriation and a magnificent librarian. Next in rank comes the library of the College of Physicians; next, that of the Academy of Physicians; and our library comes fourth in rank. After that come the Medical Department of the Public Library of Boston, and the New York Hospital Library. In other words, although the youngest of the seven libraries, ours has already passed three of them. We have nearly twenty thousand volumes."

A DOCTRINE OF PUBLIC POLICY.—Another legal decision of interest to physicians has just been announced in this city, and as it is the first of the kind coming before the courts, and will now be accepted as a precedent, we hasten to give our readers the benefit. The suit was brought to recover fees for consultation rendered by a physician while at a distance, the consultant in the case being the patient's own regular attendant, while the temporary attendant was a physician unacquainted with the previous ailments, and asked the regular attendant for advice in the matter as the patient's case assumed a grave form. The patient died at the end of three weeks, during the absence of his sister, his only surviving relative, who was at the time travelling on the continent of Europe. As residuary legatee, the sister not only refused to pay the consultant's fees, but roundly abused both him and his confrère, and like many other doctors, there was nothing for him to do but to bow himself out and enter his claim for collection according to law.

At the adjudication of the case before the Orphan's Court, counsel insisted that although the patient may not have been competent to decide as to the need for consultation during his illness, he was in such a condition when the attendant first saw him, and the auditing judge de-

cided that the consultant having no contract to show was not entitled to recover, as the physician first called had no authority to employ him. An appeal was taken, and on the first of the present month an opinion was delivered by Judge Ashmun, reversing the decision of the auditing judge, and allowing the amount claimed on the ground that it was the doctrine of public policy. The judge said: "If the right, in the consulting physician, to compensation for his services, is without legal merit, then the law is a reproach to conscience. That it has not been passed upon hitherto means nothing, or rather, it means that it has never been questioned, any more than the right of the physician to charge his patient with the drugs he has purchased, or the nurse he has hired for him, when drugs and nursing were indispensable to his recovery."—*Medical Register*.

THE PORTER COUNTY (IND.) MEDICAL SOCIETY recently met at Valparaiso and elected officers as follows: President, G. W. Arnold; Vice-President, A. P. Letherman; Secretary, D. J. Loring.

THE BIRMINGHAM (ALA.) ACADEMY OF MEDICINE held its regular monthly meeting on March 6. The officers of the Academy are: Dr. C. B. Richards, President; Dr. J. G. Orton, Secretary; Dr. W. A. Moore, Treasurer. The Academy was established in 1854. Nearly all of the charter members are now dead. Dr. Orton has officiated in the capacity of secretary from the time the society was organized until now. The next meeting will be held on the Third Thursday in April.

THE CINCINNATI ACADEMY OF MEDICINE elected the following officers on March 4: President, Dr. William Judkins; first Vice-President, Dr. George W. Ryan; second Vice-President, Dr. W. S. Christopher; Recording Secretary, Dr. Geo. A. Frackler; Corresponding Secretary, Dr. J. M. Withrow; Treasurer, Dr. Geo. E. Jones; Librarian, Dr. David De Beck; Trustees, Dr. S. G. Highway, Dr. Giles S. Mitchell, Dr. C. D. Palmer.

THE NORTH-EASTERN KANSAS MEDICAL ASSOCIATION met at Holton on March 6. The attendance was good and the exercises interesting. The next Meeting of the Association will be at Whiting the first Tuesday in June.

SEXUAL CAUSES OF INSANITY.—The Medico-Legal Society of New York has appointed a committee to consider this subject. It is composed of Clark Bell, Esq., President of the Medico-Legal Society; Dr. P. Bryce, Superintendent of Insane Asylum at Tuscaloosa, Ala.; Alice Bennett, M.D., Superintendent of the Pennsylvania State Hospital for Insane, at Norristown, Pa.; Dr. C. A. Rice, Superintendent of Mississippi State Hospital for the Insane, at Meridian, Miss.; Ex-Governor Hoyt, of Philadelphia, Pa.; and E. W. Chamberlain, Esq., of the New York Bar. This committee will be glad to receive the views of alienists, superintendents of asylums, and others as to the question: "How far is Insanity due to Sexual Causes?" Dr. Bennett will read a paper upon this topic before the Medico-Legal Society of New York on March 13.

DR. H. R. STORER, Newport, R. I., Chairman of the Committee of Arrangements of the American Medical Association, has recently received the diploma of associate membership in the Archeological and Geographical Society of Pernambuco, Brazil.

THE AMERICAN MEDICAL ASSOCIATION.—One of the events of the coming season will be the fortieth annual convention of the American Medical Association, which will be held here the last week in June. The last meeting of this Association occurred at Cincinnati in June last, when nearly 1,500 physicians from all parts of the country were present. In addition to this large number, many of whom bring their families, there were upwards

of 100 exhibitors of instruments, medical preparations, invalid appliances, prepared foods and the many other industries connected with the medical profession. The Association includes the leading doctors in regular practice, college professors, hospital surgeons, etc., throughout the country, and is modeled after the great British Medical Association. It will meet this year for the first time outside of the large cities. The Association comes to Newport without solicitation on the part of the local physicians, and under favorable conditions the holding of the convention here will be likely to give the city a boom both as a winter and as a summer resort. To ensure the success of the convention the local committee, which includes all of the resident physicians, with Dr. Storer as chairman, is working earnestly and feels confident that the visitors will have no reason to regret their selection of Newport. It is possible that the City Council or a citizens' committee will assist in the entertainment of the visitors, Mayor Coggeshall having suggested such action to the City Council, in connection with the observance of the 250th anniversary of the settlement of the city.—*Newport News*, February 27.

NEW YORK MEDICO-LEGAL SOCIETY TRANSACTIONS.—The first edition of the volume of papers and addresses read before this Society, called Series No. 1, having been exhausted, it is proposed to issue a new edition. The volume will contain 600 pp., many papers of permanent value, and will be illustrated with portraits of several distinguished men. The price will be \$3 in muslin and \$2.25 in paper. Persons wishing to secure a copy should send their subscriptions to Mr. Clark Bell, No. 57 Broadway, New York.

LETTERS RECEIVED.

Dr. J. T. Biggerstaff, LaGro, Ind.; Dr. D. Duckett, Forrest, Ill.; Dr. D. R. Armitage, Muncie, Ind.; Dr. Jas. H. Buckner, Cincinnati, O.; Dr. A. J. Ritchie, Manawa, Wis.; Dr. W. M. Smith, Syracuse, N. Y.; Dr. J. H. Kellogg, Battle Creek, Mich.; Surgeon W. H. Long, U. S. M. H., Cincinnati, O.; Dr. Jas. M. French, Cincinnati, O.; Dr. W. Channing, Brookline, Mass.; Pennsylvania Company; E. J. C. Ellis, Chicago Medical College; M. P. Brannan, Chicago; M. D. Pelle and J. H. Schuck, Hospital College of Medicine, Louisville; B. E. Martin, Rush Medical College, Chicago; L. J. Pritzker and John Kercher, Chicago Medical College; A. E. Lawrence, Columbus Medical College; J. H. Chambers & Co., St. Louis, Mo.; Dr. A. B. Younkman, Bremen, Ind.; Fred. Stearns & Co., Detroit, Mich.; Victor Safe & Lock Co., Cincinnati, O.; A. J. Colton, Buffalo, N. Y.; Arthur F. Fischer, University of Michigan; N. A. Staley, Albany Medical College; J. H. Black, Philadelphia; Dr. M. L. Mayo, Huntington, W. Va.; P. Blakiston, Son & Co., Philadelphia; Frank P. Buffum, Rush Medical College; Dr. T. W. Kay, Baltimore, Md.; J. H. Bates & Co., New York; W. R. Granger, University of Vermont; T. B. Waters, St. Louis Medical College; Dr. H. J. Holke, St. Louis; Dr. John P. Stoddard, Muskegon, Mich.; P. del Valle, University of Michigan; M. W. Everson, Jefferson Medical College; J. A. DuBois, Albany Medical College; A. B. Emery, Buffalo, N. Y.; Dr. D. M. Wick, New Hartford, Ia.; W. S. Cobb, West Stockbridge, Mass.; N. M. Geer, Port Huron, O.; Fred F. Price, Camden, N. J.; H. L. Schaefer and W. M. Yockey, Chicago Medical College; Dr. A. J. Vance, Harrison, Ark.; G. C. Lyman, Burlington, Vt.; Geo. Ripley, Medical College of Indiana; John H. Egan and W. A. Levan, Jefferson Medical College; Dr. J. W. Kime, Ft. Dodge, Ia.; David A. Fitzgerald, New York; Dr. Wm. G. Parrish, Burlington, N. J.; Dr. T. S. Foster, Laconia, N.H.; Geo. W. Fitch, Washington, D. C.; Chas. F. Hitchcock, Syracuse, N. Y.; Dr. Henry O. Marcy, Boston, Mass.; W. P. Gillinghauer and A. J. Hocuss, Ann Arbor, Mich.; Geo. T. Head, Syracuse Medical College; Dr. Maris Gibson, Wilkesbarre, Pa.; P. S. Eustis, Chicago; Dr. D. W.

Overholdt, Columbus Junction, O.; Dr. J. F. McGarvey, Cloquet, Minn.; Dr. E. J. Doering, Chicago; Dr. John A. Terrell, Baltimore, Md.; Dr. W. H. Martin, Urbana, Ind.; Imperial Gramum Co., New Haven, Conn.; Newport Aluminum & Steel Co., Newport Ky.; Dr. D. T. Gans, West Florence, O.; Dr. Jas. H. Buckner, Cincinnati, O.; Dr. T. T. Robertson, Winnsboro, S. C.; Dr. E. G. Proctor, Kane, Ill.; W. H. Schieffelin & Co., New York; Dr. C. W. Richardson, Washington, D. C.; G. R. White, New York; Warren A. Miles, Syracuse, N. Y.; Dr. M. A. Bailey, Jamestown, Pa.; F. C. Donald, Chicago; E. Merk, New York; Dr. A. L. Justice, El Paso, Tex.; Dr. Arthur J. Hall, Washington, D. C.; John G. Reed, Cincinnati, O.; Dr. Addinell Hewson, Philadelphia; Dr. Dudley Allen, Oberlin, O.; Dr. C. A. Rust, Saginaw, Mich.; Dr. H. J. Cowan, Danville, Ky.; J. A. Parks, Ann Arbor, Mich.; Dr. J. S. Updike, New York; Dauchy & Co., New York; Dr. C. F. Dutton, Cleveland, O.; Dr. Wm. B. Atkinson, Philadelphia; Dr. Wolfred Nelson, New York; Dr. Karl von Ruck, Winyah, S. C.; E. Steiger & Co., New York; Dr. S. T. McDermitt, Cowden, Ill.; Dr. Joseph Cummings, Evanston, Ill.; Dr. H. T. Montgomery, South Bend, Ind.; Dr. C. P. Tucker, New York; Plimpton Mfg. Co., Hartford, Conn.; Dr. John B. Roberts, Philadelphia, Pa.; Geo. H. Cattermole and L. H. Bacon, Ann Arbor, Mich.; W. S. Buchler, Philadelphia, Pa.; Dr. D. D. Bramble, Cincinnati, O.; Dr. J. A. Etheridge, Eatonton, Ga.; Northern Pacific Railroad Co.; F. J. Woiteshek, Ely, Ia.; Dr. D. I. Gärth, Altoona, Pa.; F. J. Fella, Toledo, O.; Dr. A. J. Brockett, Cleveland, O.; Dr. T. Smolsky, St. Petersburg, Russia; Dr. R. J. Dungleison, Philadelphia.

PAMPHLETS RECEIVED.

Bell, Clark. *Ninth Inaugural Address* as President of the Medico-Legal Society of New York. Reprint from Medico-Legal Journal.

Fifth and Sixth Annual Reports of the Board of Trustees and Superintendent of the State Lunatic Asylum, Little Rock, Ark.

Homan, Geo., M.D., Medical Examiner, St. Louis, Mo. *Reports of the Physical Condition of the Police Force of St. Louis made to the Board of Police Commissioners.*

Tilden, G. H., M.D., Boston, Mass. *Transactions of the American Dermatological Association at its Twelfth Annual Meeting.*

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 2, 1889, to March 8, 1889.

Major Warren Webster, Surgeon U. S. Army, retired from active service February 28, 1889. Par. 9, S. O. 50, A. G. O., March 1, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 9, 1889.

P. A. Surgeon E. H. Marsteller, detached from monitors at Richmond and wait orders.

P. A. Surgeon A. G. Cabell, detached from the Naval Hospital, Chelsea, Mass., and ordered to monitors at Richmond.

P. A. Surgeon Walter A. McClurg, promoted to rank of Surgeon.

Surgeon H. J. Babin, detached from the "Mohican," proceed home and wait orders.

Surgeon G. P. Bradley, ordered to the "Mohican." Asst. Surgeon Geo. A. Lang, detached from the "Vermont" and ordered to the "Mohican."

SPECIAL NOTICE.

SECRETARIES OF MEDICAL COLLEGES, to whom circulars asking for information have been sent by THE JOURNAL, will please give their names and the titles of their colleges on returning the circular. Some circulars have been returned without any mark of identification.

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ORIGINAL ARTICLES.

CHRONIC BRIGHT'S DISEASE (ARTERIO-CAPILLARY FIBROSIS) IN ITS RELATIONS TO INSANITY.

BY E. A. CHRISTIAN, M.D.,

ASSISTANT PHYSICIAN TO EASTERN MICHIGAN ASYLUM,
PONTIAC, MICHIGAN.

Efforts to frame a satisfactory etiological classification of mental disease have been materially helped by a resort to a clinical grouping of cases. It has been recognized that where a wide variation exists in the causes assigned for the production of insanity in any given series of cases, among certain of them "groups of symptoms" are manifested which point to a definite constantly acting cause. "In many instances we know absolutely that such a cause exists. Even if we do not know that a specific cause is antecedent to the development of a certain form of disease, we are justified in inferring, where symptoms are identical, an identity of cause." Acting upon this theory, it has been possible to frame a rational classification or "clinical grouping" that has simplified much that has hitherto been unsatisfactory and obscure. In spite, however, of the material assistance thus afforded, the lack of a definite pathological basis for perverted mental operations has been keenly felt by alienists.

That constitutional disease has been a comprehensive factor in the production of insanity has long been recognized. Many cases of mental disease manifesting similar symptoms, have fallen naturally into such a group. If it were possible to connect certain of these cases with a more definite pathological process, a step would undoubtedly be made towards simplifying our knowledge of the subject. We are led to believe from clinical observations, and from an interpretation of recent pathological researches in Bright's disease, that we may arrive at a material pathological basis in the classification and treatment of many cases of insanity which have hitherto been set down, rather vaguely, to disturbances of nutrition. When properly understood, it seems

likely that such a group may be made to include not only many that have already been classed under constitutional disease, but also many cases of the rheumatic, choreic and climacteric groups, as well as a goodly proportion of senile cases. The group under consideration will be found to include many suffering from alienation or impairment of mental faculties who have not possessed an especially unstable mental organization, nor an inherited tendency to mental disease. They may present simply a weakening of the faculties, or more violent perturbation, with controlling delusions systematized or unsystematized.

In the last annual report of the Government Hospital for the Insane at Washington, Dr. I. W. Blackburn, Special Pathologist for the Institution, presents in tabulated form the results of an examination of the kidneys in 263 cases of mental disease. Disregarding 104 cases, in which there was unmistakable increase of connective tissue, regarded by the author as "unimportant," we find 43 cases "in which the deviation from the normal was sufficient to constitute disease, including cases of *senile atrophy* of pathological degree." For present purposes the results are of little importance, in the absence of anything like a clinical history of the cases. Reference is made to them merely to call attention to the relative frequency with which Bright's disease occurs in insanity, either as an exciting cause, or as an accidental complication. Nearly one-sixth of his autopsies presented alterations "sufficient to constitute disease." It is reasonable to suppose that a respectable proportion of this one-sixth were cases in which the mental disease bore more than an accidental relation to the disease of the kidneys.

Out of a total of upwards of twenty-six hundred admissions to the Eastern Michigan Asylum, 37 cases have been collected in which the appearance of grave disturbances of nutrition have been co-incident with the discovery of albumin and tube casts in the urine. In only about a dozen of these cases could it be said that the mental manifestations were not dependent upon or modified to some extent by the renal disorder. The intimacy of this connection can be better estimated when we come to consider the different ways in which the association may manifest

* Report of Eastern Michigan Asylum, 1882.

itself. The little that seems to have been written on the subject justifies the belief that the importance of the relation between Bright's disease and insanity has not been fully appreciated. Those articles which have come to the writer's notice have not embraced in their treatment of the subject the full extent of the connection between the two pathological processes. It has been treated as if mental disturbance could occur only as a uro-toxic consequence of impaired functional activity of the kidneys; losing sight of those cases in which both conditions may be regarded as an expression of a more widely diffused morbid process. If insanity with Bright's disease occurred only as a uræmic condition the rarity of such conditions would justify the little consideration that has been bestowed upon the subject.

The most recent ideas respecting the nature of Bright's disease, render it easy for us to accept the notion of an affection which rivals syphilis in the multiplicity of its manifestations, acting as an efficient factor in the production of insanity. Regarded as one of the symptoms of the constitutional affection, the mental derangement is as easily accepted as the persistent vomiting, the diarrhœa, or the rarer complications, like chorea and other purely nervous disturbances, mentioned by recognized authorities as occurring in this disease, more especially in the cirrhotic form.

Although pathologists are not agreed as to the seat of the primary lesion in chronic Bright's disease, it is no longer regarded as existing altogether in the renal structure. A brief review of the evolution of present accepted theories concerning its pathology, will help us, I think, in arriving at an understanding of the extent of the relation which may exist between this affection and many cases of mental derangement. Within the past year two contributions to the subject of chronic Bright's disease have appeared which must command attention, not only on account of the prominence of the authors, but also because of the advanced theories presented therein, founded as they are upon original pathological research. The first of these was the Middleton Goldsmith lecture delivered April 18, 1888, by Dr. J. M. Da Costa, on "The Relation of the Diseases of the Kidney, especially the Bright's Diseases, to Diseases of the Heart." The other was a paper read before the College of Physicians in Philadelphia, in June, 1888, by Dr. Arthur V. Meigs, entitled "A Study of the Arteries and Veins in Bright's Disease."

The recognition of increased arterial tension with hypertrophy of the left ventricle was the first fact which tended to place the subject upon a more definite pathological foundation. To account for these vascular changes different theories were advanced, summarized by Dr. Da Costa as follows:

The first view held that renal excrementitious

matter stimulates the action of the heart, leading to its hypertrophy, and that impure blood requires greater force of ventricular contraction to force it through unwilling vessels. This was the view of Bright. A second view (Traube) took account of impurities in the blood, but located the obstruction to the flow, in the vessels of the kidney. A third view (Johnson) suggested that the arterioles refuse to receive altered blood, and that in consequence of their resistance, the *muscular* coats hypertrophy, with consequent hypertrophy of the heart. A fourth explanation asserted a fibroid over-growth of the *outer coats*. While any one or all of these were sufficient to account for the hypertrophy of the heart, they were only suggestive of the probable nature of the disease. When next it was observed that in many cases there was clinical evidence that disease of the heart had preceded the detection of the disease of the kidney, it was thought that congestion of certain internal organs, especially of the kidneys, was dependent upon the former trouble. Finally the demonstration by Gull and Sutton, in 1877, that many cases which had previously been called Bright's disease of the kidney, were, in fact, "due solely to changes having their origin in the arterioles and capillaries, and in the connective tissue in which they lie," led to the abandonment of the idea that the diseased process was a disease of the *kidney*.

The present state of knowledge of chronic Bright's disease is summarized by Dr. Meigs as follows: 1, In cases of albuminuria certain changes take place in the kidney, with which there is commonly associated enlargement of the heart, and sometimes atheroma of the arteries; 2, other changes of a degenerative and atrophic type are found in various organs and tissues of the body, namely, diseases of the cerebral arteries and of the arteries and substance of the spinal cord—described by Gull and Sutton in their paper on "Changes in the Spinal Cord and its Vessels in Arterio-Capillary Fibrosis"—emphysema and slow inflammatory processes in the lung, changes in the heart valves, degeneration of the coronary arteries and of the muscular tissue of the heart, diseases of the liver and the spleen. To account for such wide-spread changes, two schools have arisen; one assuming that the disorder is primarily a blood disease manifesting itself first in alterations in the secreting surface of the kidney; the other maintaining that it has its origin in the adventitia of the arterioles and in the capillaries and perivascular connective tissue.

The late Dr. Fothergill, in his work "Vaso-Renal Change vs. Bright's Disease," attempted to harmonize these views by elaborating a theory of *alarism*, or a reversion to the uric acid formation of lower forms of life, by virtue of which the solubility, and hence, the elimination of excre-

mentitious products, are interfered with. The irritation due to continuous circulation of such toxic matter in the blood results in hyperplasia of the vascular coats, weakening of their walls, and narrowing of the caliber of the vessels.

Influenced by the belief that the pathological process was primarily in the vascular system, Dr. Meigs made an examination of the veins and arteries in a number of cases presenting the complexus of symptoms known as chronic Bright's disease. As a result of his investigations he finds himself able to predict with considerable accuracy that, in addition to the well-known lesions of the heart and kidneys, he will find after death other widely diffused changes. In sections for the microscope from almost every organ, including the brain and spinal cord, he has found an irregular over-growth and thickening of the *intima* of the *arterioles*. He has come to attach little importance to signs which are usually relied upon, almost to the exclusion of everything else, to establish the diagnosis. While the presence in the urine of albumin with casts is positive evidence of the disease, the absence of one or the other does not negative the diagnosis. In one of his cases, in which aortic regurgitation had made its appearance late in life as the result of calcification of the valves, death came on gradually in consequence of heart failure, without dropsy or other symptoms pointing to an involvement of the kidneys, except a trace of albumin without casts when the patient first came under treatment. Microscopical examination after death revealed atheromatous and fibroid alterations in the vessels, and parenchymatous changes in the kidney, with casts in the tubules. He cites also another case in which the autopsy verified the diagnosis, where casts were never found in the urine, although albumin was constantly present.

Da Costa, in his paper referred to above, analyzes 127 cases of valvular disease of the heart, and finds among them only eight cases in which any true affection of the kidney followed the disease of the heart—not one of true contracted kidney—from which he concludes that valvular disease of the heart rarely leads to chronic disease of the kidney. On the other hand, from an analysis of 121 cases of renal disease with concurrent heart disease, it becomes apparent that the character of the kidney affection in the vast majority of cases is that of the contracted kidney. He concludes that "the ordinary valvular affections in the Bright's diseases are the result of the altered tissue-nutrition of the valves, and of the degenerative changes which take place there, as they take place in the large and small vessels of the body. They are favored to a greater or less degree by the morbid products which, from want of proper elimination on the part of the kidneys, circulate in the blood. It may also be a question whether, in part at least, the altered nutrition of the

valves may not be due to affections of their nervous supply." "He goes on to say that while degenerative changes are favored by age, yet age is not the important factor it appears at first sight to be. He has been led to his conclusions by the results of investigations into the condition of the ganglionic nervous system. He has found changes in the cells of a degenerative character sufficient, in his opinion, to account for the vascular changes and for the cardiac hypertrophy. He also admits, with Meigs, thickening of the *intima*, but the primary pathological condition he believes to be in the wasting of the cells of the sympathetic ganglia. This theory, I believe, finds clinical support in those cases in which a patient in his usual health is suddenly overwhelmed by a fatal oedema of the lungs, a rational explanation for which lies in vaso-motor paralysis.

Here, then we have a picture of a disease so generally diffused, that no organ of the body may be said to be exempt from sharing to a greater or less extent in the derangement which may be set up. I am aware that more positive evidence in the form of microscopical examination of the brain substance is necessary to establish the conclusions which I would draw. It should be borne in mind, however, that it is with precisely such cases as we are now dealing that this evidence is most likely to be lacking. Many of them are cases in which the mental disorder has been regarded as a functional disturbance, and whose symptoms are least suggestive of histological changes, and hence, least likely to stimulate to such investigations. It would seem, also, that mental manifestations would be limited to that form of Bright's disease treated of especially by Meigs and Da Costa; but we are little concerned with the nomenclature of Bright's disease, if, as Millard says, "all inflammatory conditions of the kidney arise as a matter of course from the vascular apparatus of the connective tissue."

The same sets of causes commonly recognized as productive of insanity in general, are no less efficient when acting through the medium of such an affection. Dr. Tyson speaks of "mental anxiety, whether the result of grief or of business and financial cares," as among the possible causes in the production of Bright's disease. All authors recognize prolonged mental tension, of whatever kind, as a frequent cause. Adding to this the gradual development of structural changes, whether as an "arterio-capillary fibrosis," or as an increase of connective tissue in the kidney interfering with the elimination of deleterious matter or as both combined, the subsequent appearance of altered mental phenomena is understood with little difficulty, and all the more readily, if we can accept Da Costa's theory of the disease originating in a starvation of the cells of the sympathetic ganglia.

Cases of insanity dependent upon Bright's disease arrange themselves quite naturally into two classes: the uro-toxic, and the vascular, according as the one or the other set of symptoms predominates. The disease is, of course, the same, and the different sets of symptoms may at different times present themselves in the same individual; and, as Meigs has so plainly shown, death may ensue from causes apparently widely diverse, and yet identical lesions be found after death. In the former class are included not only those undoubted cases of uræmic insanity in which the symptoms are of the nature of delirium, the result of blood-poisoning, but also those cases in which the mental perturbation is as much the result of a lowered state of bodily nutrition as of the direct action of poisonous matters upon the nervous centres.

Genuine cases of uræmic insanity have been met with infrequently. The following illustrative case is reproduced from the last biennial report of the Eastern Michigan Asylum. The patient was a female, æt. 34; mother died of consumption; otherwise, family history good. There was no inherited tendency to mental trouble. Patient had puerperal convulsions attending a miscarriage three years previously. She is said to have been insane for some time following. A second attack, also puerperal in causation, occurred two years later. The present attack, likewise puerperal, was of two months' duration prior to admission. During the entire interval between the first and last attacks there was a history of grave dyspeptic disorders, associated with failing vision. Previous to her transfer from home she is said to have been occasionally maniacal, though for the most part confused and restless. At the time of her admission she was greatly reduced physically, and her pulse was rapid and feeble. There was a peculiar tremor about the lips while speaking, and her articulation was indistinct. Her mind was bewildered and her conversation wandering. She had little appreciation of her surroundings. Her urine contained many casts, with much renal debris, and albumin was present in considerable amount. Mental disturbance was of the character of delirium. There were extreme restlessness, picking at the bed-clothes, and low, muttering conversation, but never any maniacal manifestations. She took food poorly, and rapidly exhausted. She died semi-comatose less than a month after her admission to the Asylum. She was not able to express herself coherently at any time during her stay in the institution."

Symptoms attributable to uræmia may appear in the progress of other cases where the earlier mental manifestations point rather to a disturbance of the general nutrition of the patient. A clergyman, a gentleman of intelligence, who was suffering from melancholia of a suicidal type,

had broken down in his work, partly in consequence of continued ill health; partly as a result of natural peculiarities which unfitted him for his calling. For over a year previous to his admission to the Asylum he had been a confirmed invalid, suffering from dyspeptic troubles, headache, frequent vomiting, periodical attacks of eczema, etc. From being merely hypochondriacal, emotional and despondent, he came to entertain active delusions, first, of suspicion respecting his friends, eventually, of personal unworthiness. In spite of a nourishing diet, a quiet mode of life, and remedies directed to restoring his strength, the patient went steadily from bad to worse. Physical prostration progressed out of all proportion to variations of weight, and of force of the circulation. Hallucinations of vision and of hearing came in to intensify his delusions and to make his condition more pitiable. These systematized delusions gave place finally to a low delirium, with complete incoherence of ideas. With all this there were intense excitability of the motor centres, grinding of the teeth, jactitation, and increase of the visual and auditory hallucinations. Towards the close, spasms of all the voluntary muscles recurred frequently. Except that these attacks were not attended by a condition of insensibility, they did not appear to differ much from an ordinary convulsive seizure. He finally passed into a state of unconsciousness in which he died, four months after his admission. His urine, during his stay in the asylum, presented no marked deviations from the normal, either in the amount excreted, or in the specific gravity. Albumin was present in small amount. Hyaline and granular casts and cells in a state of granular degeneration were present in abundance. The patient never had any paralysis nor localized convulsion, nor any symptom pointing to a focal brain lesion. Œdema was never present. Unfortunately, an autopsy was not practicable.

It may not be out of place, to recall here, that the amount of urea found by quantitative estimation to be excreted in twenty-four hours may not be a reliable indication of the presence or absence of uræmia. The daily excretion of urea we know to vary widely, not only in different individuals, but in the same individual, and this variation may be within the limits of perfect safety. On the other hand, we can understand how life may be gravely threatened by all the dangers of uræmia when the amount of urea excreted is found to be nearly or quite up to the standard fixed as normal. The kidneys do their work well up to a certain point, removing all the waste products, except a certain small amount which is left over as a residuum, to be added to daily by small increments. Gradually the point is reached at which these matters cannot circulate in the blood without manifesting their presence; or it may be that after an unusual inges-

tion of nitrogenized food, or an unaccustomed amount of exercise, or both together, the system becomes suddenly overwhelmed. It is obvious that the kidneys of such a person will be least likely to present gross structural changes.

In the following case there can be no reasonable doubt of the dependence of the mental disorder upon the renal disease, or of death resulting from uræmia: A retired capitalist, 81 years of age, well preserved, of temperate habits, and without inherited taint, began to fail in mind eighteen months prior to his admission to the asylum. He became restless, irritable towards members of his family, and unwilling to remain at home. At first he had delusions of extravagance. To these there succeeded, later, periods of noisy excitement lasting for several days, during which he feared robbery and personal injury. Chronic Bright's disease had been diagnosed by his medical attendant a year previous to his coming to the asylum. At the time of his admission he weighed in the neighborhood of 200 pounds. There was no evidence of arterial degeneration, but his pulse was full and slow, and the left ventricle was manifestly hypertrophied. His pupils were contracted, and the urine contained albumin and casts. His delusions gradually lost form and were replaced by confusion of ideas. Later, recurring attacks of vomiting were followed by loss of appetite and flesh. Attacks of dyspnoea occurred occasionally, sometimes attended with expectoration of blood. Slight pitting of the ankles occurred towards the last. This patient finally died in a coma, which persisted through five days.

More frequently the mental symptoms do not suggest uræmic intoxication as much as a general lowering of the nutritive processes. The brain, with other organs, feels the lack of a healthy blood supply. Such cases are apt to accompany or follow a train of dyspeptic symptoms. The patients become low-spirited; sustained mental effort and the pursuit of the ordinary avocations are impossible; the mind dwells upon the bodily symptoms, and confirmed hypochondriasis results. If delusions develop, they are usually confined to groundless ideas of suspicion of friends, or to ideas of personal unworthiness.

As illustrative of chronic Bright's disease associated with this type of mental trouble, the following cases are reproduced from the last biennial report of the Eastern Michigan Asylum: A male, æt. 45; no hereditary tendency to mental disease; had been a temperate man, but there was a history of dyspeptic troubles dating back many years. During the fall preceding his admission he had become peculiar, forgetful and confused. Later, he was nervous and hypochondriacal, and in the winter developed religious delusions, associated with ideas of a self-condemnatory character, and became suspicious

of the different members of his family. He was finally brought to the asylum, partly in accordance with his own wishes, with some appreciation of his condition. He had complained of failing vision for two months. Upon admission he seemed reduced physically. Pulse 102, and weak. He continued despondent and hypochondriacal, and was at times distressed by his delusions. Casts and albumin were present in his urine from the first. On several occasions he experienced seizures which were regarded as of uræmic origin; complained also of seeing balls of fire. After one of his seizures his attendants thought he was dead, and resorted to artificial respiration to restore him. He remained confused and more or less insensible to his surroundings during the rest of the day, and on recovery, articulation was noticed to be very indistinct. Bed-sores developed, and towards the last suppression of urine occurred. Diarrhoea was a troublesome feature. He died semi-comatose four months after admission.

A female, æt. 57. Family history good. Patient was naturally of active habits, cheerful and amiable. Mental failure followed close upon a continued fever of some sort, two years and a half previous to admission to the asylum. Health had never been good since. Mental peculiarities were at first confined to causeless worrying about her children. Later, she became profoundly depressed and labored under delusions of suspicion of those about her. When admitted she was in feeble bodily health. Lower extremities were extremely cedematous, and urine contained albumin and casts. There was present as an almost constant symptom a considerable degree of bronchial irritation. There was persistent cough, with paroxysmal seizures of an asthmatic character. She became very asthenic, and finally died, as the result of pleural effusion, four months after her admission.

While the assumption of a uræmic origin seems the most natural explanation for many of the symptoms in the foregoing class of cases, there are other cases in which the prominent symptoms are manifestly of vascular origin. In the writer's experience this class has been the more numerous. In a paper read before the meeting of the American Neurological Association, in 1888, on "The Relation of Renal Diseases to Diseases of the Nervous System," Dr. Robert T. Edes belittles the importance of uræmia as an element in any of these cases. He denies that symptoms generally associated with acute and chronic Bright's disease, such as headache, sensory disturbances, dyspnoea, paralyses, neuralgia, itching, eruptions, etc., are uro-toxic. On the other hand, since many of the typical "uræmic" symptoms are wanting in these cases of insanity, he concludes that interference with the eliminating functions of the kidneys is not sufficient to account for all

the symptoms presented. He calls attention to the fact that so-called attacks of uræmia, in the midst of apparent health, are most common in the interstitial variety of Bright's disease, where the vascular element in the disease (by which he means high arterial tension, associated with hypertrophy of the left ventricle) is most common; and not that form in which the epithelium is chiefly involved. It must be borne prominently in mind that the disease, as described in the researches of Meigs and DaCosta, is primarily vascular, with secondary changes in other organs, of which the kidney lesion is but one. Not all patients suffering from this vascular fibrosis manifest mental perturbation, for the same reason that all do not present casts in their urine. As the changes are more advanced in one or the other organ, so will the functions of that organ be the more interfered with. In some of the cases which have come under observation the symptoms have at first suggested a possible organic brain disease, and have borne no slight resemblance to paralytic dementia. Delusions of an extravagant type have been met with occasionally. In a number of cases of mental decay following paralysis, there can be little doubt that the cerebral lesion was but an incident in the vascular changes of the Bright's disease. Dr. Edes dwells upon attacks of paralysis appearing a short time before death. He demonstrates, I think, that a rise in tension in the blood-vessels of the brain, either from spasm of the walls of the vessels, or from the violence of the impulse of the hypertrophied heart, is more likely to be the cause, than a sudden diminution in the amount of matter excreted by the kidneys. If instead of a localized œdema, with subsequent reabsorption of the effusion and disappearance of the motor disability, a rupture of the vascular coats occurs, there results a lesion of which vestiges remain during the entire subsequent progress of the disease. It is not unlikely that further investigations will enable us to include a larger number of cases of "dementia with paralysis" in this class. The three following cases are cited to illustrate this point:

A male, æt. 45. Father said to have died of paralysis. He was an industrious and hardworking man, and had attempted to manage a farm during the daytime and to carry on his trade (that of a shoemaker) at night. Two years previous to his admission he was stricken with left hemiplegia. Mental failure dated from this attack. He lost judgment, became confused, and developed delusions of suspicion. At the time of his admission to the Asylum there was marked arterial tension, with increase in the area of precordial dulness. During his stay in the Asylum many of his symptoms strongly suggested paresis. There was thickness of articulation and much muscular incoördination. Frequently occurring attacks of diarrhœa were a troublesome feature. Towards

the latter part of his life he became very dropsical. Albumin and casts were found in his urine. He finally died in consequence of a pleural effusion, not quite four years after his admission to the Asylum. A post-mortem examination showed both kidneys to be atrophied and cystic. The heart, otherwise healthy, was enormously hypertrophied—weighing 22 ozs.

A male, æt. 65, a sailor; was known to have been licentious and intemperate, although no history of specific infection was obtainable. He was first admitted to a United States Marine Hospital, suffering from the effects of a left hemiplegia. His mental condition rendered it impossible to obtain from him any information as to the duration of the paralysis. During the six months of his stay in this Government Hospital he demented rapidly, becoming finally so restless and noisy as to render his transfer to the Asylum necessary. At the time of his admission his arteries were in an advanced stage of atheromatous degeneration. There were contractures and wasting of both the arm and leg on the left side. He was at first unable to express himself, but later he improved so as to make his wants known, and acquired a fair appreciation of his surroundings. His vision, which was imperfect from the start, failed progressively. He repeatedly sustained "seizures" marked by sudden and complete loss of consciousness, without accompanying interference with the heart's action. His attacks were accompanied by vomiting, but never by convulsions. Later, diarrhœa became a troublesome feature. Bed-sores developed, emaciation progressed, and vision became nearly abolished. His urine contained albumin in moderate amount and granular casts in abundance. He finally died in coma, nine months after coming to the Asylum.

The third case occurred in a man of exemplary habits, and without any inherited tendency to mental trouble. A little over two years prior to his admission to the Asylum he suffered an attack of paralysis. According to the account given by his physician he fell from his chair and remained unconscious for eighteen hours. The attack was accompanied by slight convulsions during the first few hours. There were stertorous breathing and great congestion of the head and face. Twice afterwards he had a similar attack; the last time six weeks previous to his admission to the Asylum. The last two attacks were similar to the first, but without convulsions or loss of consciousness. The paralysis does not seem to have been strictly limited to either side. His mind commenced to fail shortly after the first attack, and progressed rapidly during the interval between the last attack and his admission to the Asylum. His mental symptoms were chiefly those indicative of decay of the mental powers. Delusions were not present at any time. At the time of his admission to the Asylum he weighed 193 lbs., and presented

the appearance of being well nourished. There was marked arterial tension, with increase of the area of precordial dulness. No heart murmurs; no evidence of atheromatous degeneration; pupils normal; vision very imperfect, and could not be remedied by glasses. His gait was very paretic—equally so on both sides, and hand pressure was greatly diminished. There was some anaesthesia. The urine contained albumin and a few small hyaline casts. Dropsy was never present, even in small amount. His stay in the Asylum was marked by no special mental symptoms, occasional attacks of bewilderment being the most prominent mental manifestations. Less than a month following his admission a sudden oedema of the lungs overwhelmed him, and he died, within two hours, of suffocation. This oedema of the lungs was accompanied by several profuse watery discharges from the bowels. For several days previous to his death he had complained of constant and severe headache. He had become accustomed to brief attacks of dyspnoea coming on after rising in the morning.

“Insanity of Bright’s disease” is not meant to designate a new form of mental disease. However, as indicating a probable origin of many cases hitherto not fully understood, it is an admissible term. It offers indications for temporary relief, establishes a prognosis in certain cases which, but for the presence of albumin and casts, might offer delusive hopes, and provides an explanation for the persistent downward course of many cases which have the outward appearance of uncomplicated cases of melancholia.

In conclusion, I present a brief summary of what I have attempted to consider in the foregoing pages.

1. The frequency with which evidences of chronic Bright’s disease are found associated with mental derangement leads to the belief that the latter condition is often dependent upon the former as its cause.

2. This belief finds support and explanation in the present accepted ideas of the pathology of chronic Bright’s disease, according to which the disease is no longer regarded as confined to the kidneys, but as possessing features which make it essentially vascular. These consist in structural alterations in the blood-vessels of the brain and spinal cord, as well as in the vessels of other organs of the body.

3. There are cases of insanity with chronic Bright’s disease which are of uro-toxic origin, but in the majority of cases the mental manifestations must be regarded either as an expression of lowered nutrition or, as is more frequently the case, due to vascular changes in the brain, attended often by convulsions of other than uræmic origin; disturbances of speech and of locomotion.

4. Finally, in many cases of dementia with paralysis it will be found that the destructive brain

lesion, with subsequent decay of the mental faculties, is the result of an alteration in the vascular coats of the brain, coexistent with an hypertrophied heart, and with structural changes in the kidneys.

ON THE MICROSCOPICAL DIAGNOSIS OF CANCER.

*Read before the Medical Society of the District of Columbia,
November 28, 1888.*

BY EDWD. M. SCHAEFFER, M.D.,
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Cancer is a disease which is, unfortunately, but too common in all parts of the world; and whether, as some have asserted, there is a higher percentage of deaths from this cause in the District of Columbia and the adjoining States than elsewhere, or whether there is a tendency of these cases to gravitate hither from other portions of the country, certain it is, that the records of our Society, as well as the vital statistics of the District, show that we have at least our full proportion of deaths from this disease. To the theories as to its cause I shall but briefly refer, leaving also the practical subject of treatment to the physician and the surgeon.

A somewhat particular study of morbid growths, extending over upwards of twenty years, and observations founded on many microscopical examinations, as well as such clinical notes as I have recorded in my note-books, wherever such were obtainable, would seem, however, a sufficient basis upon which to offer some practical points which may be of advantage to the general practitioners, as well as to the surgeons included in the membership of our Society.

The minute structure of malignant growths has always attracted the attention of the most eminent pathologists, ever since the improvement of the microscope has enabled them to be studied under a magnifying power sufficiently strong to give those details of cellular structure on which their classification in modern pathology is founded. To a certain extent this classification has given us results in harmony with the clinical history of such growths, and been of practical use to the physician, whom it enlightens on obscure cases of internal growths, often enabling him to make a correct diagnosis when other signs fail, in such cases as afford an opportunity for the study of the morbid products expelled by the natural outlets of the body. When these chances do not occur, it is but too often, it must be admitted, that it only proves of *post mortem* benefit to the patient and his friends, in ascertaining after death the exact nature of the disease. Even here the aid of the microscope is frequently invoked, and clears up many otherwise doubtful cases of diagnosis where the unaided vision would leave the case in uncertainty, and the practical advantage

in the diagnosis of future cases presenting similar symptoms is not small.

In the majority of cases of external cancer of pronounced types, and especially in epithelioma, we are able to make the diagnosis with much precision, and a prognosis based upon such results is of a high degree of certainty. The surgeon is encouraged to act boldly where an operation is practicable, and the patient is induced to submit to an operation the arguments in favor of which might otherwise fail to carry conviction.

But there are some forms of morbid growth resembling in some particulars malignant disease in structure, where the natural history is widely different from that of the true malignant types, and in spite of the elaborately illustrated works on the subject, the physician will frequently come across forms not distinctly referable to any of the classified types. This is to be expected, because we now know that cancer is not, as was formerly supposed, an entirely foreign and separate entity, having its seat among the healthy tissues of the body, from which it draws nourishment while it destroys them, but rather the cellular manifestation of certain modifications produced in previously normal tissue by a process of disease not apparently governed by such well-defined and definite laws as would lead us to expect uniformly similar results in similar growths observed in different cases.

The possible production of cancer by a minute parasitic form of a vegetable nature has recently been again discussed, and though the omnipresent microbe has not yet been traced to its lurking-place in this disease, there is much plausibility in the theory of such an origin for benign as well as malignant growths.

The curious distortions of leaves, flowers, and other parts of the plant under the irritating influence of insect punctures, and the tumors and hypertrophies of limbs of trees and shrubs evidently due to extraneous causes at first, cannot fail to suggest to the student of nature a certain analogy to similar distortions in the animal structure, which, while it may be fanciful, is possibly a suggestion of a somewhat similar cause in both, modified in its results in the animal by its differing and more highly organized systems of nutrition and growth.

As far back as 1854, a member of the Royal Microscopical Society of England, Mr. Jabez Hogg, in his work on the microscope, expressed a belief in the "fungoid origin of cancer." But taking our knowledge of the structure of cancer as it stands, the question arises whether, in spite of the acknowledged ability of the microscope to distinguish its principal types, the surgeon is using that instrument to the extent of its power in diagnosis. Whether in fact, disgusted by a few contradictory results, he is not inclined to consign it to the category of wholly unreliable tests? While

but few are willing to put themselves on record to this effect, the less guarded private utterances of some of our own members would seem to indicate such an opinion.

Let me briefly advert to the causes which I believe have induced this mental attitude on the part of some members of the profession. In the first place, as some one (Huxley, I believe), has remarked, the value of microscopical observations depends much more on the quantity and quality of cerebral tissue *behind* the visual organ of the observer, than it does upon the excellence of the lenses *in front* of that expressive feature. Some men seem never able to acquire the faculty of intelligent and discriminating observation. But this should no more discredit true microscopical work than the erroneous observations of early writers in ascribing certain diseases to microscopical germs, as malarial fever to the Palmella, for instance, should be used as an argument for the fallaciousness of all later work by other observers in the same direction. And it would be illogical for the surgeon to take the ground that because the electrical indicator gave erroneous results in the localization of a metallic missile in the case of President Garfield, therefore all future appliances of electricity as a guide to the surgeon in doubtful cases should be condemned.

Really good observers are sometimes overawed, as it were, by a previously announced diagnosis by men of high reputation, to the extent of modifying their own observations to accord with the weight of opinion among those who have viewed the case from an entirely different standpoint. The result is apt to be a sort of composite opinion, from which all true original judgment has been eliminated. But I take it to be the function of the microscopical observer, when appealed to in doubtful cases, to ignore all collateral evidence as much as possible, and pronounce an opinion independently of any other considerations on the case before him. Whenever I have allowed myself to be thus biased it has subsequently proved that my judgment would have possessed more value if entirely free from such influences, and it has been my habit for years, when called on to examine a case of suspected disease, whether cancer or other morbid process, to request that all information as to the case be withheld until I have written my opinion. Another advantage of this method is, that whereas the human memory is often treacherous, the *littera scripta manet*, and the possession of written copies of all opinions, has been of value in case the loss of the copy given the patient or his medical adviser might lead to dispute as to what such original opinion had been. After this has been done I endeavor to obtain for my notebook all points of peculiar interest in the case, and the final result whenever practicable.

I have in my cabinet sections of a thickened band of the mucous layer of the rectum in a case

in which the patient had procured the opinions of eminent surgeons in this city and New York. The identical piece from which my sections were made had been examined microscopically by different pathologists, and pronounced epithelial cancer. One of the observers who gave this opinion was the author of a valuable work on the diseases of the rectum. Yet this was a case where a thorough acquaintance with the normal structure of the part seemed to justify my opinion given in writing to the patient, that there was not a single spot in the section which could not be duplicated from a section of the normal rectum, a hypertrophy and somewhat abnormal position of the mucous follicles of the part having however produced in the sections an appearance somewhat resembling certain forms of glandular neoplasia, but certainly *not* the structure of epithelioma. The sections on which I based my judgment were, some of them, submitted by the patient to several expert microscopical diagnosticians in Baltimore and elsewhere, who without being informed of my opinion already given, coincided in their judgment of the case with the view taken by me. Had I been previously acquainted with the array of surgical talent that had pronounced the case one of cancer I might have been frightened out of my diagnosis, yet the patient, who had no doubt for some time carried the growth which was first submitted to me in April, 1886, has since been perfectly restored to health, after a not radical operation by electricity as I have been informed, and when last heard from had experienced no return of the growth.

This case serves to illustrate the importance of another requisite in microscopical diagnosis, for want of which the best powers of observation and the most cultivated judgment will sometimes fail, viz., a sufficient experience not only with morbid growths, but with all the normal tissues of the body. No one can be reliable as a pathologist in the study of the more evident changes which the unaided eye detects in disease, unless familiar with all the variations in health. This seems a truism, yet it is apt to be lost sight of in the applications of the microscope. A section through a Paccinian or tactile body in the finger of an infant, perfectly normal, was once submitted without remark to a microscopist, who unhesitatingly pronounced it to be epithelioma. Yet, the gentleman whose more particularly pathological studies led him to pronounce this opinion, was an eminent observer, so eminent that the ingenious youth who had interrogated him, being an official subordinate, was afraid to inform him of his error, and he never consequently derived the due benefit from that object lesson.

Besides a knowledge of normal tissues, the observer should be familiar with the changes produced by simple inflammation, hypertrophy, lesions of particular diseases, such as syphilis,

etc. An acquaintance with the modifications due to chemical re-agents is sometimes useful, as well as considerable experience with vegetable and other extraneous structures, when discharges supposed to be from the bladder, uterus, etc., are searched for indications of cancer. Altered membranes and clots from the uterus are often of a very puzzling description, and without much familiarity with these discharges serious error may arise.

A rock on which many observers are wrecked is the improper selection by the surgeon of the portion of tissue to be examined. For fear of taking too much tissue, a small piece may be excised which on examination will show the effects of inflammatory induration, or hypertrophy of the part such as commonly occurs in the neighborhood of malignant growths and yet no true cancerous structure be included. The diagnosis is correctly made, but upon imperfect data, and the result is that the microscope, in common parlance, gets "a black eye" as an instrument of accuracy in diagnosis. In other instances a growth which in its initial stage has not fully attained the structure of carcinoma, if not removed, may subsequently proceed to develop its typical character and a diagnosis founded on an early examination be thus discredited.

In conclusion I will briefly relate a case of peculiar interest to me, in which at the first examination of the patient's urine I made the diagnosis of cancer, which has since been confirmed by the subsequent history and an autopsy.

A man, about 60 years old, was sent to me May 4, 1888, by Dr. N. S. Lincoln, for the purpose of having an examination of his urine. Patient was tall, dark complexioned, rather sallow but not cachectic in appearance, said he had pain in his back. Had not yet been examined by Dr. Lincoln, who wished to learn the condition of his urine he said. He sent for report the same afternoon, but it was not completed. The report sent to Dr. Lincoln was as follows:

Anal. 3720. May 4, 1888.—Color of urine natural, nearly clear, moderate amount of deposit, of a whitish flocculent character, moderately acid, spec. grav. 1.014. Quantity in twenty-four hours not stated, but patient had observed no change in that respect of late. Albumin about one-half of volume when coagulated. No excess of phosphates, no sugar, urea not below normal average per oz. *Microscopical examinations:* No casts. No fresh blood, but shreds of fibrin (from blood-clot?). The deposit contained a large proportion of pus, and epithelium from the bladder, and also numbers of large, many-nucleated cells, *not normal*. No crystalline sediment.

In a note to Dr. Lincoln accompanying the report I said: "As this patient was apparently very anxious about his case and might want to see the report of analysis, I write you separately in order

not to needlessly alarm him, to say that there is no doubt in my mind as to the character of the many-nucleated cells, viz., that they are typical cancer cells. If any small clots are observed in his water, it might be well to have him drop them into weak spirits and let you see them."

May 10, 1888. *To Dr. Lincoln*: "I gave Mr. J.'s son the result of the second analysis in his father's case, and see no reason from the microscopical appearances in this analysis to change the opinion of the case formed at first. Absence of local pain and hæmorrhage may indicate a favorable form or early stage of the growth, if one exists."

The case progressed and I made frequent examinations of the urine up to July 18th. The albumin was always found, but diminished in amount ultimately. The color was for some time natural, and no clots or increased deposit to attract the eye, at first, but subsequently the urine became turbid, and the deposit more abundant, and pinkish in color, and toward the last a few blood corpuscles appeared. No casts were found at any time. The urea gradually fell below normal average. The many-nucleated cells were at first all separate and distinct, but in Analysis 3818, July 16th, they were also found in small continuous fragments of tissue, the largest of which were distinctly visible to the naked eye. Death occurred on the 3d of November, and an autopsy was made by Dr. D. S. Lamb.

[The right kidney was found, at the autopsy, to be converted into a cancerous mass, which under the microscope showed the structure of epithelioma.]

A CASE OF PERITYPHLITIS.

*Read before the Medical Society of the District of Columbia,
December 12, 1888.*

BY T. E. MCARDLE, A.M., M.D.,
OF WASHINGTON, D. C.

T. K., male, white, æt. 34 years, consulted me at my office on the evening of November 15, 1888. He complained of general malaise, with localized pain in the lower part of the abdomen towards the right side. He had a short, harassing cough. His bowels had been freely moved from some purgative pills taken the previous night. His pulse was 100, temperature 102.6°. I ordered him home and to bed at once and prescribed codeia and quinine, together with a strict liquid diet.

On the following morning (November 16), I found that he had passed a very comfortable night. A thorough examination revealed a tumor in the right inguinal region. The pulse was 80 and the temperature 100° F. Poultices were ordered. When I saw the patient again in the evening his pulse was 100 and his temperature 102°.

On the morning of the 17th Dr. J. Ford Thompson saw the patient with me. He had enjoyed a

fairly good night and his bowels had moved naturally. The pulse was 100 and the temperature 101°. Pus easily detected. Poultices continued. Evening pulse 110, temperature 103°. On the morning of the 18th the pulse was 100 and the temperature 101°; the patient had passed a comfortable night.

Chloroform was given and laparotomy performed. After the evacuation of the pus, a drainage tube was introduced and the wound was dressed antiseptically. The patient took the anæsthetic badly; the nausea was distressing and the vomiting continued until 3 or 4 o'clock in the afternoon. At 9 o'clock in the evening, when I saw him, his pulse was 100 and his temperature 97.4°. I gave him some whisky and water, which he immediately vomited, together with a quantity of dark-green fluid. A hypodermic injection of morphia $\frac{1}{4}$ gr. and atropia $\frac{1}{150}$ gr. was administered. He spent a very restless night and vomited at midnight after taking a pill of morphia gr. $\frac{1}{4}$ and atropia gr. $\frac{1}{150}$. The fluid was not dark as before. At 10 in the morning the wound was syringed with a carbolic solution, the drainage tube removed, an iodoform tent substituted, and the wound redressed antiseptically. Champagne, milk and lime-water were ordered. Pulse 100, temperature 97.4°.

At 5 in the afternoon the pulse was 96 and the temperature 98.6°. As he had vomited the champagne twice its use was discontinued. At 10 in the evening his pulse was 96, temperature 99.4° in the axilla. He had vomited at 8 o'clock. Suffered from hiccough and had been slightly delirious.

The wound was again syringed on the morning of the 20th and found to be cleaner than on the preceding day. The pulse was 76, the temperature 97.8°. He had had a bad night, as the vomiting and hiccough had continued. He was now better and able to retain a small quantity of champagne. Poultices were ordered. In the afternoon the pulse was 100 and the temperature 99.6°. The wound was syringed and found to be cleaner. An iodoform pad was applied and the poultices were continued. A suppository of morphia gr. $\frac{1}{4}$ and belladonna ext. gr. $\frac{1}{6}$ was ordered.

At 10 P.M. I found that the patient had vomited before using the suppository, but not since. Meanwhile he had slept three hours. He felt much better. His pulse was 88, temperature 98.4°. The iodoform gauze was changed, another suppository ordered, and the poultices renewed. He slept well during the night, but vomited clear fluid at 7 in the morning. At 10 o'clock the pulse was 86, the temperature 97.6°. The wound was cleansed and dressed, and the poultices were continued. A bottle of citrate of magnesia was ordered to be taken in four doses at intervals of an hour each. He retained the first two doses but vomited the others. Whilst I was at his bedside at 5 o'clock in the afternoon he vomited a

pint of greenish fluid. The wound was cleansed and dressed. Two enemata were given by me, bringing away some small hard lumps of faecal matter. He spent a very bad, restless night, and vomited many times. He had another small movement, hard and lumpy.

At 10 A.M. his pulse was 88, temperature 99°. The wound was syringed and the poultices were continued. Three suppositories had been used during the night without producing sleep. A grain of calomel was ordered every two hours until 3 grains were taken.

At 5 in the afternoon the pulse was 92 and the temperature 99.8°. The wound was again syringed; there was very little discharge. He had vomited frequently, twice while I was in the room. The fluid was large in quantity, yellowish-green in color, and bad-smelling. There had been no movement from the bowels, though all the powders had been taken. I washed out the rectum three times with some effect.

At 10 P.M. the pulse was 98 and the temperature 99.4°. The patient had vomited six times, and his bowels had been moved twice. The odor was horribly fetid. A suppository every three hours was ordered. The patient was restless until 2 A.M.; has not vomited since that time. Has had two bad-smelling movements.

At 10 o'clock the wound was cleansed and but little discharge found. Pulse 90, temperature 99.4°.

At 5 P.M. the wound was again syringed. The abdomen was softer, though there was some slight pain on the left side. Slight nausea, but no vomiting since morning. Poultices continued and suppository ordered at 8 P.M. After a good night's rest the wound was syringed at 10 in the morning, and the poultices were stopped. No nausea, but hunger. Takes plenty of nourishment. Pulse 84, temperature 98.6°.

At 5 o'clock the pulse was 100 and the temperature 99°. The patient spent a very comfortable day. A suppository was ordered at night and the patient slept well. The next morning, however, he felt oppressed and suffered from flatus. He had doubtless taken too much food. Ordered poultices to be applied and aromatic spirits of ammonia to be taken in teaspoonful doses. Pulse 80, temperature 97.8°. He spent a restless day; vomited five or six times; had a movement at 4:30 o'clock. He had taken very little nourishment during the day, so I ordered liquid bread. At 6 in the evening his pulse was 84, temperature 99.8°.

Although three suppositories were given him, he spent a bad night and slept but little. He had four dark fetid movements from the bowels and vomited eight times. He began to improve at 4 A.M., and now relished his liquid bread.

His pulse was 100 and his temperature 99.8° at 10 in the morning. The wound was cleansed and found to be filling up from the bottom. His bow-

els were moved twice during the day and at 2:30 he vomited. At 5 his pulse was 110, temperature 101.8°. At 7 his bowels were again moved.

At 10 the next morning his pulse was 96, temperature 98.4°. Feels well, takes plenty of nourishment, and expressed a desire to read the newspaper.

At 5 o'clock his temperature was 101.8°, pulse 106. He had passed an excellent day, and had taken plenty of nourishment. He had not been at all nauseated, and was entirely free from pain. There had been very little discharge from the wound. He used three suppositories and slept well during the night.

At 10 in the morning his pulse was 84, temperature 99°. In the evening his pulse was 100, temperature 101.6°. He slept well during the night, and in the morning his pulse was 84, temperature 98°. I ordered a bottle of citrate of magnesia, and his bowels were moved once before 5 o'clock. At that hour his pulse was 94, temperature 99.6. His bowels moved twice again, and he was restless until 2 in the morning. At 10 A.M. his pulse was 80 and his temperature 98.8.

From this time on, with occasional relapses, he continued to improve.

THE SEGMENT TREPHINE AND AN ASEPTIC TREPHINE.

Read before the Philadelphia County Medical Society, Feb. 27, 1889.

BY JOHN B. ROBERTS, M.D.,

PROFESSOR OF ANATOMY AND SURGERY IN THE PHILADELPHIA POLYCLINIC.

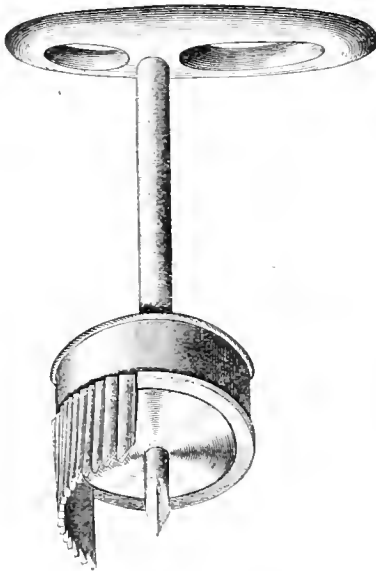
The frequency with which operations are now done upon the skull and brain has made apparent the need of improvement in our instruments for opening the skull. Seven years ago I published¹ an account of my experiments with the surgical engine, as a means of making openings in the skull; and I still believe it an excellent and safe means of effecting entrance to the cranial contents. The chief disadvantages are the expense of the engine and its liability in ordinary hands to get out of order. This latter objection held good at least in one hospital with which I have been associated.

The ordinary trephine, either cylindrical or conical, will probably be used much more frequently, therefore, than the surgical engine; hence, suggestions to improve its character are not inadmissible. The "segment trephine," described in the *Operative Surgery of the Human Brain*,² is, I think, a valuable instrument with which to deepen any portion of the groove surrounding the button of bone to be removed, without cutting along its entire circumference. The skull is often very much thicker in some parts of

¹ Philadelphia Medical Times, 1881-82, xii, p. 206.

² Page 78.

the area of operation than in others, and the ordinary trephine has to be tilted to avoid injuring the cerebral membranes at the points where the skull is thinnest. Tilting is not always easily done when the trephine is large and deeply imbedded in the bone. A "segment trephine," having the same radius of curvature as that with which the operation was begun, enables me to cut deeper, and with great care at any selected part of the groove. The accompanying illustration renders a detailed description of the instrument unnecessary. The cutting edge extends one-third of the circumference, and the centre-pin, not requiring retraction, may be immovably fixed to the head of the trephine. The instrument has no groove in the stem or handle to collect septic matter, and is readily cleaned.

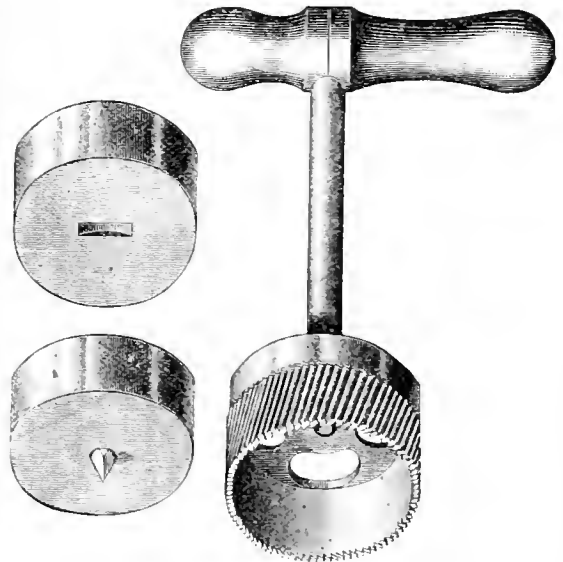


A serious objection to the ordinary trephine is the fact that it is almost impossible to get assistants and nurses to keep the centre-pin, and the tubular stem in which it slides, perfectly aseptic. Indeed, it is difficult, with every intention of perfect cleanliness, to keep the hollow stem of the instrument absolutely clean. I have endeavored to remedy this objection by making the stem solid, and substituting for the ordinary sliding centre-pin a circular block of metal, accurately fitting into the crown of the trephine, with a point upon its lower extremity.

As soon as the surgeon has cut a groove deep enough for the teeth of the trephine to be maintained in position upon the skull, the central block is taken out of the crown of the trephine, and the operation continued as with the ordinary instrument, after retracting the centre pin. Upon the upper surface of the block is cut a shallow slot, into which fits a slight projection from the upper part of the trephine crown. This compels

the block to rotate with the rest of the trephine when the operator is making the first incision into the bone. The trephine itself is made as thin as possible, in order that the groove between the disc of bone removed and the rest of the skull may be very narrow. The button of bone, when replaced, can then be held in position more readily than if the groove is a wide one. I believe that after using a thin trephine, such as this, it at times will be well to stitch the button of bone into position by catgut sutures passed through the periosteum, which may be allowed to remain upon the surface of the disc of bone, and upon the skull adjacent to the trephine opening.

The crown of the trephine must not be too conical, because such a trephine in cutting through the thick skull makes the outer portion



of the incision a very wide one. I am inclined to think that a surgeon of even moderate skill never needs a conical trephine to prevent his plunging the instrument into the brain; a cylindrical one should be just as safe in his hands as a conical one. An advantage in having the crown of the trephine slightly conical, when a large instrument is used, is the less liability of the instrument becoming jammed in the groove. This annoyance not infrequently occurs on account of irregularities in thickness of the skull, especially when a large surface is included in the trephine. It is more apt to take place, I think, when the groove is made by a cylindrical instrument, which does not make the external aspect of the incision wider than the internal.

The weight of the metal handpiece can be minimized by fenestræ, or by making the handle hollow. It is best to attach the handpiece to the stem eccentrically, as suggested by Horsley, since the hypothenar portion of the palm needs a longer lever than the thenar.

This aseptic trephine, it will be seen, is somewhat similar to the safety trephine of Hopkins,³ who suggested the use of a cylindrical block instead of a centre-pin, because of the possibility of the surgeon forgetting to withdraw the centre-pin, and, therefore, wounding the dura mater. His device contained a spring to keep the block thrust forward, and was, therefore very difficult to clean. In fact it was not constructed with an idea to facilitate asepsis, but to prevent careless puncture of the dura.

MEDICAL PROGRESS.

RADICAL CURE OF HYDROCELE OF THE TUNICA VAGINALIS.—BRIGADE-SURGEON SIBTHORPE reports from the General Hospital, Madras:

Twenty-six operations for paracentesis of hydrocele are recorded under the head of minor operations in the senior surgeon's wards last year; in 14 of these a radical cure was attempted, undiluted tincture of iodine being injected in 10 cases, and pure carbolic acid in 4. As far as these small numbers go they show that there is not much to choose between the two methods; both appear equally efficacious in certain cases, and both are generally followed by some local and constitutional disturbance. The carbolic acid, however, appears to be followed by less pain than the iodine, though, with it, pain is by no means absent, as some surgeons would have us to believe.

Of the 14 cases, 9 can be claimed as cures; Case 2, with little local trouble, after six days; Case 5, a double hydrocele (there was a good deal of inflammation), discharged cured on the twentieth day, the left being reduced to the size of a hen's egg, the right smaller; Case 6, having been three times tapped and twice injected, left the hospital with a considerable amount of fluid in the tunica, which completely disappeared afterwards under the use of tincture of iodine to the scrotum; Case 7 was cured on the twenty-second day, the local trouble having been slight; Case 8 left the hospital on the twenty-eighth day, the local trouble having been slight; Case 9 left the hospital on the twenty-fifth day, having had only slight swelling after injection; Case 10 left on the eighth day, with the swelling going down. All these cases were injected with tincture of iodine. Case 11 was tapped twice, and injected with pure carbolic acid; he had a good deal of pain and swelling, with some constitutional disturbance; a small abscess formed at the seat of puncture; this was followed by a sinus, which necessitated his being kept under treatment for a long time. Case 12 absconded a month after the operation, with the swelling going down. Case 14 absconded the second day after the operation, so it was impossible to say what was the result.

There were partial cures in 2 cases, namely: Case 1, after injection with tincture of iodine on two occasions, suffered a good deal from pain and constitutional disturbance; he left the hospital with the part still enlarged thirteen days after the second operation. Case 3 left the hospital on the fifth day after the operation with some swelling remaining. In Case 4 castration had to be performed, as the two injections of tincture of iodine had been followed by failure, and the testicle was found atrophied when the sac was cut into. In Case 13 suppuration following an injection with pure carbolic acid required free incision and drainage, which was eventually followed by a cure. The long time taken in the cure in some of these cases, and the histories of the failures, lead one to question which is the most suitable operation for the cure of old-standing hydroceles, where the tunica is much thickened and very much enlarged. No doubt the treatment by injection is by far the most suitable for moderately-sized and comparatively recent tumors.

I would like to call attention to an interesting paper by Mr. J. S. McArdle, published in the *Dublin Journal of Medical Science* of September, 1887, on this subject. He alludes to the fact that the operation of incision for the radical cure of hydrocele is as old as the time of Celsus, but that it had fallen into disuse, and has been only revived since the antiseptic method of dressing wounds has come into use. He gives the following description of the methods now in use:

Incision (Volkman).—An incision is made from the external abdominal ring to the base of the scrotum, and reaching down to the tunica vaginalis. That membrane is incised along its entire length, and bleeding vessels ligatured. The tunica vaginalis is then washed with a 3 per cent. solution of carbolic acid, and its edges applied to those of the skin by numerous points of fine silk suture; the dressings are then applied. English remarks that it is well to leave the ends of the sutures long, so as to avoid the difficulty of finding them in the swollen tissues when, on the third day, their removal becomes necessary.

Partial Resection (Julliard).—After the skin and tunica vaginalis have been cut, as in Volkman's operation, the redundant portions of the latter are removed and the edges of the remaining portion brought together with fine catgut. A drainage tube is then laid in the wound, up to but not into the tunica vaginalis, and the skin wound closed.

Complete Resection of the Parietal Tunica Vaginalis (Bergmann).—After section of the skin and tunica vaginalis, the latter is dissected off close to the epididymis and testicle. Bleeding vessels are then ligatured, a drainage tube laid in, and the skin wound closed by numerous points of silk suture. In all the operations a 3 per cent. solution of carbolic acid is used for washing the parts. Bergmann claims that sloughing of the tunica

vaginalis, cellulitis, necrosis of the testicle, and scrotal abscess follow injection more frequently than the method of incision or resection. He also states that the method of excision or incision takes very little longer, and gives the following relative dates of healing after the different methods:

Injection.—Billroth, 9th day; Stoltz, 9th day; Weiss, 8 to 9th day.

Incision.—Volkmann, 8th to 10th day; Küster, 14th day; Lister, 17th day; McArdle, 12th to 14th day.

Excision.—Julliard, 10th day; Bergmann, 11th to 12th day; McArdle, 7th–12th day.

The chances of recurrence are much less after entire incision, partial resection, or complete resection, than after injection. Mr. McArdle quotes 315 cases of injection by different surgeons in which the disease recurred in 13 per cent.; 245 cases of incision in which it recurred in 2.4 per cent.; 53 cases of partial resection in which it recurred in 1.9 per cent.; and 22 cases of complete resection in which the disease did not recur. He only recommends these methods for cases in which the trial of injection has been made and has failed. —*British Medical Journal*, February 23, 1889.

A CASE OF ELEPHANTIASIS ARABUM is reported by DR. R. W. FELKIN, of Edinburgh, as follows: On the 14th of July, 1888, I was asked to see an unmarried lady, a Eurasian. Her age was 33, her height 5 feet 2 inches, and her weight 11 stones 4 $\frac{1}{4}$ lbs. She was born in India, and had resided there most of her life. She had always enjoyed good health, with the exception of suffering now and then from intermittent fever. She had led an active life, and had apparently undergone considerable exertion. Up to the beginning of 1887 her appetite had always been good, but she had been remarkably thin. After a rather severe attack of fever early in 1887 she noticed that she commenced to increase in size, and that her appetite was capricious. She took a great dislike to fish, and always vomited after eating it. She had also occasional attacks of nausea and vomiting with headaches. Every now and then her occupation became rather tedious to her, and she sometimes felt as if she could hardly keep up. In September, 1887, as she felt gradually growing worse, she decided to leave India for a time; and for some unknown reason she was weighed before starting on her journey, and felt surprised to find that she weighed 9 stones 8 lbs. The voyage home seems to have done her good, for when she landed in England she felt better than she had done for some time previously, and this improvement in her feelings continued for two or three months. She noticed, however, that she still increased in size, and that her skin was at times itchy and very irritable. Her limbs, too, felt painful and sore, more so than they had done in India. During the spring of 1888 she was very busily employed,

walking about a great deal; in fact, she told me that she was more or less on her feet from 9 in the morning till 10 at night. In June, 1888, she felt quite unable to continue her exertions. Her arms and legs felt heavy and powerless, her appetite became very bad, and she felt dull, low-spirited and miserable. Her food, too, frequently disagreed with her. At the beginning of July she decided to take a few weeks' rest, and she then came under my care.

On examining the patient I found her to be rather nervous. Her tongue was slightly coated with a brownish-yellow fur; her pulse was 104, full, and almost bounding in character; her temperature was 100°, respiration 24. Her heart and lungs were apparently quite healthy; her liver was slightly enlarged, the area of dulness being 5 $\frac{1}{2}$ inches in the mammary line; the spleen was markedly enlarged, and extended to within 3 $\frac{1}{2}$ inches of the umbilicus. On examining her integumentary system, I found that a remarkable hypertrophy had taken place; this hypertrophy affected the whole of the body with the exception of the head and neck, the forearms and hands, the legs below the knees and the feet, also the anterior aspect of the trunk from 3 inches below the clavicles to the umbilicus, and the posterior aspect of the body between the scapulæ and underneath them. The upper arm measured 36 $\frac{1}{2}$ cm. in circumference at its thickest part on the right side, and nearly 36 on the left; the thigh on the right side at its middle third measured 71 cm., and nearly the same on the left; the calf on the right leg measured 35 cm. in circumference at its thickest part, and that of the left leg the same. There was distinctly less hypertrophied tissue upon the shoulders and beneath the scapulæ, and a deep groove separated the masses of hypertrophied tissue over the scapulæ. There was very marked hypertrophied tissue in the lumbar region and over the lower part of the abdomen below the umbilicus; in fact, it might almost be described as a girdle of hypertrophied tissue, which sank down several inches when the patient was in the erect position. I was, unfortunately, unable to obtain any more detailed measurements, and I much regret that it was impossible to persuade the patient to consent to a proper photograph being taken of her remarkable condition. I reproduce, however, two instantaneous photographs, which may serve to give some idea of her condition after a week's treatment and her state shortly before she left my care. The skin in the regions I have above mentioned was darkly pigmented, and formed a distinct contrast to my patient's natural complexion; it was rough, having somewhat the appearance of the rind of a boiled orange; it was tense, and appeared to be bound down to the subcutaneous tissue; this was especially the case in regard to the upper arms, the two masses of tissue situated below each clavicle, and those over the

scapulæ, but in the other regions of the body the mass of tissue had a certain amount of movement; for instance, when the patient was in the erect position, the masses of hypertrophied tissue which encircled the thighs descended, especially in front, where they completely overlapped the patellæ. On palpation, one experienced the sense of dense, brawny, slightly elastic hardness. The skin did not pit on pressure, or hardly so, but it was slightly painful to the touch. In many places, especially over the buttocks, it was distinctly nodulated, and presented a most typical elephantoid appearance, which appearance was less marked in the upper part of the body. The glands in both axillæ and in both groins were enlarged; in the natural folds of the body there was a slight exanthematous eruption. I examined the blood and the urine frequently during the progress of the case, and also punctured the tissue in various parts of the body, as I thought that at first I might have to deal with a lymphoid variety of elephantiasis; no lymph, however, could be obtained. The amount of urine passed varied from 50 to 70 ozs. in the twenty-four hours; the sp. gr. varied from 1012 to 1025. With the exception of some albumin which was present in the urine for the first three weeks, nothing abnormal could be detected. On one occasion I thought I saw a few ova of the *Filaria sanguinis hominis*, but repeated microscopical examination gave no confirmation. The microscopical examination of the blood gave no results. Menstruation was irregular and slightly painful.

Treatment.—Absolute rest was enjoined, and the patient had a hot bath almost every day. A moderate amount of bland food was ordered, consisting chiefly of milk (the patient could never eat fish; I tried her with it on several occasions, but it always caused nausea and vomiting). The patient was regularly massaged. Commencing with half an hour a day, the rubbing was subsequently increased to an hour and a half, and the constant current battery was applied for twenty minutes each day. A mixture was prescribed containing quinine, arsenic, iron and strychnine, and the bowels were regulated by the frequent administration of aperients. The progress of the case was in every way satisfactory; with the exception of a slight rise in the temperature for six days after the massage had been commenced, all went well. The patient complained of nothing excepting the battery and the pain that the massage gave her during the first three weeks. The massage and battery were discontinued about the 10th of September, by which time the skin had become normal in character—in fact, had returned to its usual condition, and all tension and hard feeling had disappeared. A remarkable diminution had taken place in the circumference of the limbs, the circumference of the upper arms having been reduced to 25 cm., and the middle

third of the thighs only measuring 54 cm. in circumference. The mass of hypertrophied tissue encircling the body had quite disappeared. The patient stated that she felt quite well, buoyant, and fit for work. She could walk with ease and comfort, and by the middle of October she was apparently quite restored to health, and has continued so to the present time. I should perhaps mention that for a week or two after her prolonged rest the patient suffered from slight swelling of the feet and ankles. This condition, however, completely disappeared.—*Edinburgh Medical Journal*, March, 1889.

NEW ANTISEPTICS IN PHTHISIS.—DR. C. THEODORE WILLIAMS, after speaking of the results obtained with phenyl-propionic acid (see *THE JOURNAL* of last week), says:

Phenyl-acetic acid ($C^6H^5O^2$) belonging to the same series as phenyl-propionic acid, resembles it closely in taste, but has a more acid reaction. It dissolves in alcohol 1 in 6, and when thus dissolved is more soluble in water, so that 20 minims of the alcoholic solution is taken up by a small amount of distilled water. The alcoholic solution was given in doses of 10 minims to 20 minims three times a day, under the same conditions as the phenyl-propionic acid, to 19 cases of phthisis.

Nature of Cases and Duration of Disease.—The patients were 14 males and 5 females, the ages of the males varying from 18 to 40, with an average of 29.6 years, and those of the females varying from 14 to 40, with an average of 21 years. There was a great variety in the duration of the disease in these patients, as it ranged from 2 months to five years, the majority having at least one year's symptoms. One was a case of scrofulous phthisis, and one a case with cavities in both lungs and right pneumothorax. One patient, a girl of 18, apparently contracted phthisis from nursing a sister who was in a far advanced stage of the same disease. In two cases pyrexia was present.

State of Lungs.—Nine patients had tuberculization of one or both apices, the right lung being affected in three, the left in three, and both apices in 3. In most cases the tuberculization did not extend beyond one lobe. In 10 patients cavities were present, in 6 the cavity was limited, and the opposite lung free; in 2 others there was excavation of one lung and tuberculization of the opposite one. In 2 patients cavities existed in both lungs, and in one of these patients right pneumothorax had supervened. There were therefore 7 cases of double affection, against 12 of single affection. The sputum was examined for tubercle-bacilli in 15 cases, and these organisms were detected in all in varying abundance. The patients took the phenyl-acetic acid for periods varying from 21 to 89 days, the average being $45\frac{1}{2}$ days, and in no

case did it give rise to any unpleasant symptom. The odor was perceptible in the ward, though never in the patient's breath or in any of the secretions. All other medicines, except purgatives when required, were suspended during the trial of the drug.

General Results.—Thirteen improved, 3 greatly; 4 deteriorated; and 3 remained stationary. The improvement here consisted in gain of weight, strength, and color, and doubtless this was partly due to the diminution of cough and expectoration. The weights of 18 out of the 19 cases were recorded, and these show gain of weight in 12, loss in 4, and a stationary condition in 2; the gain varied from 1½ pounds to 9½ pounds. The losers in weight included the 2 pyrexial cases and the pneumothorax patient, who died later on.

Local Results.—Twelve patients showed an improved condition of lungs, 4 showed a worse state, and in 3 it was neither better nor worse. The improvement consisted of subsidence of cough and reduction of expectoration, with diminution in the physical signs. In the worse cases there was either advance or extension of the disease, or both. Among the "improved" cases 8 were first-stagers, and in 7 of these diminution of physical signs is noted; and 4 were third-stagers. This shows local improvement in eight-ninths of the tuberculization cases, and in only two-fifths of the cavity cases. The effect on the cough and expectoration was very marked, both being reduced thereby. It would thus appear that the phenyl-acetic acid produced very satisfactory results; general improvement taking place in 68.4 per cent., local in 63.15 per cent. On the whole this acid appears to be more successful than its congener, phenyl-propionic acid, as the subjoined figures of the percentages of improvement will show:

	Patients	Improvement.	
		General per cent.	Local per cent.
Phenyl-propionic acid	20	65.0	35.0
Phenyl-acetic acid	19	68.4	63.4

In gain of weight the phenyl-propionic acid cases had the advantage, as 70 per cent. of these gained weight against 66 per cent. of the phenyl-acetic acid cases.

Neither phenyl-propionic acid nor phenyl-acetic acid appeared to have exercised the slightest influence on pyrexia, and this, considering how closely allied they are to antifebrin and other antipyretics, is very remarkable.

It may be naturally asked, did these patients fare better than similar cases treated with cod-liver oil and bitter tonics who were on the same dietary? Cod-liver oil is a food, not a medicine, and so we can hardly pit these new medicines

against it; but as regards the usually prescribed tonics, such as quinine and mineral acids, I question if any of these can show equal results to the above, and I think therefore that these antiseptics merit a fair trial. I would close this paper with the following conclusions:

1. Phenyl-propionic and phenyl-acetic acid promote appetite, digestion, and assimilation in phthisis, and thus cause gain of weight.

2. They are well tolerated in considerable doses by patients for long periods of time.

3. Their influence on the lungs is less marked than their constitutional influence, but phenyl-acetic acid acts more beneficially on the lungs than phenyl-propionic acid, and appears to reduce cough and expectoration.

4. The use of phenyl-acetic acid appears to be more indicated in cases of tuberculization, and that of phenyl-propionic acid in excavation cases, but a larger number of observations are required to speak with certainty on this point.—*Practitioner*, February, 1889.

SALICYLATE OF CRESOL.—At a meeting of the Academy of Sciences PROF. BOUCHARD read a note for Dr. Letzinski, of Bern, on the salicylate of cresol, which is not soluble, and which is a powerful antiseptic. This medicament has, according to the author, given good results in acute rheumatism. As it is possible to saturate the intestines without inconvenience, and as the microbe of cholera appears to have its principal habitat in the intestines, Dr. Letzinski thinks that this substance may be employed with success in the prodromic period of the choleraic attack. M. Bouchard, however, makes some reserve on this last point, for he does not participate in the opinion of those who hope to cure cholera with antiseptics introduced into the intestines.—*Lancet*, February 9, 1889.

NATURE AND TREATMENT OF DIABETIC COMA.—DR. STADELMANN, of Dorpat, in a recent article in the *St. Petersburgische Wochenschrift*, points out the great similarity which seems to exist between the coma of diabetes and the condition produced in herbivorous animals by inducing acid intoxication. Amongst other points, he refers to some analyses by Minkowski, of the gaseous contents of the blood. In the normal condition, the blood of the rabbit contains 25 per cent. of carbonic acid; but when the animal is suffering from artificially induced acid intoxication, the carbonic acid is diminished. Thus, in one instance, Minkowski found it 16.4 per cent. with a moderate degree of intoxication; when the latter was increased, the percentage of carbonic acid fell further, first to 8.8, and finally to 2.9 per cent. In order to compare this with the gaseous changes in the blood of diabetics, he examined the blood of a patient before and during

¹ These drugs are very difficult to obtain. They are prepared by Schuchardt, of Götting, and have been obligingly procured for the Brompton Hospital by Messrs. Burroughs, Wellcome & Co., Snow Hill, E. C., who now supply them.

coma, the carbonic acid being respectively 17 and 3.34 per cent. In order to ascertain whether this diminution of the carbonic acid in the blood was merely due to coma as such without reference to its cause, he examined the blood of a comatose patient, not a diabetic, whose condition was due to meningitis. Here the carbonic acid amounted to 28.2 per cent. The acid existing in diabetes appears to be oxybutyric acid, which in some cases appears in the urine to the extent of something like 3 ounces per diem. Some years ago Dr. Stadelmann found a new acid, which he believed to be crotonic acid, in considerable quantity in certain cases. He now, however, considers it merely a substitution-product from oxybutyric acid.

The indications for treatment supplied by these views are, of course to, combat the acid by large quantities of alkali. Several attempts have been made to treat diabetic coma by injecting into the veins from 1 to 4 ounces of carbonate of soda dissolved in about four pints of water, with a little chloride of sodium. In only one instance, however, has this proved successful, and unless it is done very early no good result can be fairly expected of it. It is found that the urine in twelve hours after the injection is intensely acid. Better results are to be obtained in attempting to ward off coma by giving alkalies freely. Thus, Dr. Stradelmann prescribes about an ounce of tartrate or citrate of soda dissolved in about half a pint of soda-water two or three times a day, and has found great reason to be satisfied with this line of treatment. Of course, if coma should come on, he would have recourse to alkaline intravenous injections without loss of time.—*Lancet*, Feb. 9, 1889.

THE LOCAL TREATMENT OF LARYNGEAL PHTHISIS.—DR. A. SOKOLOWSKI, of Warsaw, concludes an article on the treatment of laryngeal phthisis, with the following summary:

1. A cure of laryngeal phthisis, though seldom effected, is possible.

2. Cicatrization of each ulcer which takes place by itself, or through local application, is closely related to the general condition and the character of the local changes in the lungs.

3. The best local results are obtained from the combined treatment by lactic acid, surgical procedures, and the galvano-cautery.

4. General treatment should go hand in hand with the local treatment.—*Wiener klin. Wochenschrift*, No. 4, 1889.

MEDICATED THALLIN BOUGIES IN GONORRHOEA.—DR. JOHN M'CRAW, of Dublin reports the following case: H. J. had impure connection four days before he applied to me for relief. His symptoms were those of acute gonorrhœa, the disease having been considerably aggravated in con-

sequence of his having been drinking heavily both before and since he contracted it. The yellowish-green discharge from the urethra was abundant; he suffered severely during micturition, and there was great tenderness along the whole course of the penile urethra. The night before he came to me he was obliged to rise five times to pass water. He had the disease seven years ago, and was then under treatment for about two months with a medical gentleman in this town, who gave him copaiba. The line of treatment adopted in this case was by the introduction into the urethra of medicated bougies, and the medicament consisted of sulphate of thallin of 5 per cent. strength. Before introducing the bougie I made the patient micturate, in order to clear the urethra of discharge, and I then passed the bougie up to the ring, and directed him to hold the meatus quite close, so that none of the application could flow out as it melted. I kept him lying on his back for 20 minutes, at the end of which time I withdrew the spring and closed the meatus with cotton wool. During the time the bougie was in the urethra he complained of smarting pain, but after I withdrew the spring he said the pain ceased entirely, and he expressed himself as feeling comfortable. He introduced one every evening after this, following carefully the directions I gave him; and on the third day after he had been with me he called to say he was quite cured, having no discharge of any kind, and no pain on passing water. The day following happened to be his busiest day in the week, as he had to work to 12 o'clock at night, and be on his feet the greater part of that time. In consequence of this he could not get to using his bougie that day at all, and on the next morning there was a slight return of the former symptoms; but he began anew his treatment, and after using two more bougies, was again perfectly cured. He has remained so since, although he has undergone the heavy day of the week which caused him to relapse before, and this time with impunity. No bad after-effects of any sort resulted from the treatment, and my patient was very grateful, as well as very much surprised and delighted, for he had been looking forward to a course of copabia-drinking with anything but pleasant recollections.—*Dublin Jour. Med. Science*, March, 1889.

MERCURIAL TREMOR.—M. LETULLE reports the case of a man of 39, who was, at his work, exposed to emanations from the acid nitrate of mercury. For eleven years he suffered in no way except that his teeth became black and fragile. At this time he served three years in the army and then resumed his trade. Ten years later he had his first attack of mercurial tremor. A course of sulphur baths and iodide of potassium relieved but did not cure him. The tremors were worse in the morning, almost imperceptible about 4 to

5 P.M., and again very marked in the evening. Suddenly one day the tremors became so violent that the man was thrown down by them and was so violently convulsed that he could not walk; in this condition he was brought to the hospital.

When perfectly at rest in bed the movements were slight, but they were very much intensified by any voluntary effort. The motions were extensive, rapid, arrhythmic, not like those of any disease, though choreiform, and were, perhaps, more marked upon the left side. There was an anæsthetic area on the back of the right forearm and hand, and the man said that since the first attack of tremor his vision had been impaired. There was some narrowing of the left visual field without any notable color-blindness. These peculiar symptoms led Letulle to name the malady *mercurial hysteria*. He accidentally discovered that constricting the limb would check the tremor, and he finally permanently stopped it by the application of an elastic ligature, and the passage of a magnet up and down the limb. He therefore concluded that mercury in a case like this produced no serious structural lesion in the brain or cord, but appeared to exalt in a singular way the activity of the nervous centres and profoundly disturb the harmony which governs their functional synergy.—*La France Médicale*, November 8 and 10, 1888.

ALPHA-OXYNAPHTHOIC ACID AS AN ANTISEPTIC.—It is now six months since alpha-oxynaphthoic acid was brought out as an antiseptic. Helbig (*Therap. Monatsh.*) records what has been effected by it so far. He recommends a collodium made from it (0.5 per cent.) as a substitute for iodoform collodium, as it is a very strong antiseptic. It has the advantage over the iodoform preparation of not irritating the skin of sensitive subjects, and of being more staple. There can be no doubt that iodoform collodium is by no means a satisfactory preparation. Efforts are being continually made to improve it, so that this substitute should find a wide field for trial. The same author recommends an antiseptic wool in the treatment of ulcers and wounds. He prepares it as described under:

R Acidi α -oxynapth 5j
Spiritus vini rect 5viij
Glycerini 5iss
Fuchsin gr. 1-12
M

The resultant liquid is sufficient for 7 ounces of wool, and gives a product which, when dry, contains about 1.4 per cent. of acid. The paper shows, on the whole, that there is plenty of room for good new antiseptics, although we have so many already.

PHYSIOLOGICAL ACTION OF SULFONAL.—From some experiments on this subject W. J. SMITH

draws the following conclusions: 1. In moderate doses sulfonal is completely transformed into very soluble compounds (sulphacids); in this respect it is distinguished from a large number of similar bodies, the disulphides among others, which pass through the organism unchanged; for example, ethylene diethylsulphide. 2. Sulfonal does not affect the elimination of sulphuric acid, which shows that the organic compounds formed by sulfonal have great stability. 3. In moderate doses sulfonal has no influence on organic combustions.

COMBINATIONS OF LANOLIN.—DR. STERN, a specialist in skin diseases, publishes in the *Therap. Monatsh.* some notes on new combinations of lanolin. "Sapolanolin" is a mixture of 2½ parts of anhydrous lanolin to 2 parts of pure soft soap. With this base all medicaments may be mixed with the exception of salicylic acid. The author used it for applying boric acid, tar, white precipitate, resorcin, etc. These ointments were found to be specially advantageous in inveterate infiltrated eczema, in mycosis and seborrhœa. Against psoriasis capitis he used an ointment made as described hereafter:

R Hydrarg. precip. alb. 5j
Saponis mollis 5iv
Lanolin anhyd. 5jss
M

Anhydrous lanolin is of course simply the ordinary lanolin of commerce, deprived of its 25 per cent. of water. Sapolanolin with white precipitate, is, according to the author, just as effective on the head as chrysarobin is on the body. As a paste which adheres to the skin, without necessitating the use of a bandage he used a mixture of

Oleum olive 5ij
Cera flava 5j
Lanolinum anhyd. ana 5ss

The ointment is a pale yellow color, and of thick consistence. It can be mixed with all other ointments when, for the treatment of eczema, the use of such a paste is indicated. Another suggestion of the author is the use of lanolin injections for the urethra, such as the following:

R Zinc sulphatis gr. x
Aquæ 5ij
Dissolve and add to—
Lanolini anhyd. 5v
Olei amygdal 5iij
M

Or, as under—

R Acidi salicylatis gr. v
Dissolved in—
Olei amygdal 5iij
Lanolini anhyd. 5j
M

Injectations are made with an ordinary syringe, and it is found that the medicaments are very readily absorbed by the mucous membrane.—*Provincial Medical Journal*, March 1, 1889.

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PRACTICAL ANATOMY IN THE COLLEGES.

In looking over the "requirements for graduation" of the ninety degree-conferring regular medical colleges of the United States, one is particularly struck with the variety of requirements in regard to practical anatomy. Some of the schools require thorough dissection of the whole body; some "certificates of at least one course of practical anatomy;" others "practical anatomy during two sessions, and dissection of all parts of the cadaver;" still others require "dissection of one lateral half of the body;" and some do not mention practical anatomy in their requirements for graduation.

What must be the surprise of the recent graduate of a college that requires a minimum amount of dissection, to read that John Hunter, Sir Astley Cooper, and other eminent surgeons of the olden time scarcely considered that they were entitled to their breakfasts until they had done some dissection—and this every day during their professional lives! We would not be understood as holding the opinion that dissection is the best exercise for acquiring an appetite in the morning, nor that it is necessary that each surgeon should spend some part of each day in dissecting. But anatomy can be learned best by dissection; and it appears that practical anatomy is far too much neglected in the colleges. In some of the schools it can scarcely be otherwise than that the student is simply introduced to the study of anatomy. Certainly, some of the graduates are not well acquainted with the subject. Anatomy is a sub-

ject for the practical study of which the medical man has but little time or opportunity after he gets into practice. Like chemistry and physiology, it must be learned at the college, or the chances are, it will never be learned.

Is the incentive to the study of practical anatomy in the schools sufficient? We think not. Not being required, in the majority of instances to pass practical examinations in anatomy, the student, in a large number of cases, thinks it quite sufficient if he knows enough of the subject to write on paper the answers to certain questions. He would view the matter in an entirely different light if he had to demonstrate (as a part of his examination) some portion of human anatomy, especially if he had to make the demonstration before others than the teachers in his college. This should be the more important part of the anatomical examination. And it would be well if it were, or could be, the only kind of anatomical examination before State licensing bodies. The anatomical part of the German *Staats-Examen* is of this nature—entirely practical. The candidate is required to demonstrate a "part" or one of the cavities of the body in the presence of at least two members of the examining board. Clearly, the student that has learned his anatomy from a book can have no place in such an examination. And inasmuch as the practitioner must practice on men rather than on books, this is the only proper method of finding whether the student has a working knowledge of anatomy. At the University of Virginia a part of the anatomical examination consists of actual demonstrations on the cadaver of several parts of the body. Whether such examination is required in any other American colleges we do not know.

It may be said, also, that topographical and morbid anatomy are much neglected in American schools; yet no one doubts their great importance. How many students, or medical men, can point out on the living subject the structures that lie beneath a given superficialities? How many recent or old graduates can make a *post-mortem* examination as it should be made? Are not very many students graduated after hearing lectures on pathological anatomy without having had an opportunity of seeing specimens of the morbid affections of which they have heard?

Why should a student be required to listen to "twice told tales" in the anatomy room, without

having what he hears verified by anatomical demonstrations—apart from the actual work in the dissecting room? And does it not appear to be self-evident that a student can learn more from an autopsy, properly conducted, than from half a dozen didactic lectures on the pathology of a given disease?

These are questions that medical teachers, and examining boards, would do well to ask themselves.

HOT-AIR INHALATIONS IN PHTHISIS.

If one is to accept the statements of DR. A. L. STERN at the last meeting of the Section on Practice of the New York Academy of Medicine, the desideratum that has been so long and so fruitlessly sought for, a positive cure for pulmonary tuberculosis, has now been attained. This cure, Dr. Stern claims, is effected by Dr. Weigert's hot-air inhalation-apparatus, which he exhibited, and the use of which he explained. It is simple in construction, consisting of two copper cylinders, one within the other, and the air to be inhaled, which is heated by means of a Bunsen burner to a minimum temperature of 212° , and thus rendered perfectly aseptic, passes up between the two. The inhalation is to be used for four hours each day—two hours at a time—and it can be taken either in a sitting or reclining posture. It is advised, however, that when first commencing the treatment the patient should use the apparatus for thirty minutes only twice a day. The temperature of the air inhaled is gradually increased from 212° to as high a point as the patient can bear without suffering inconvenience; 482° being the highest temperature as yet reached in any case in these inhalations.

As a result of the hot-air inhalation, it is claimed, there is an acceleration of the pulse, while there is diminution in the frequency of the respirations, and inspiration becomes deeper. There is at first an elevation of the body temperature, the rise being from 1° to 2° ; but after about an hour the temperature again subsides. Under the continued use of the inhalations the difficulty of breathing incident to consumption is soon markedly relieved, and there is at first a lessening, and then a total cessation of cough. There is at first an increase, then a decrease, and finally total disappearance of expectoration. All catarrh-

al symptoms disappear, as do the fever and night-sweats. There is a clearing up of the infiltrated portions of the lungs, and cicatrization of cavities, when these exist, is brought about; while the strength, weight and appetite of the patient gradually increase. The microscopic examination of the sputa generally shows at first an increase in the number of the bacilli tuberculosis, but afterwards there is a total disappearance of the bacillus, and a complete cure is effected. The shortest period in which total disappearance of the bacilli has been noted is four months. This method of treatment, Dr. Stern said in conclusion, has now been employed in 150 cases, 50 of which were published in Vienna.

All this reads like a fairy tale, but it can be safely assumed that it will not be long before the method has been given a sufficiently extended trial to enable the profession to decide upon its merits. Dr. Weigert, the inventor of the apparatus, is a graduate of the College of Physicians and Surgeons of New York City, and is now residing in Berlin. We learn that Dr. Trudeau, of Saranac Lake, N. Y., has already used the hot-air inhalations with success in a number of cases. There is but little doubt that this method of treating phthisis will be extensively tried. It is to be hoped that the trials will be as careful as extensive, so that whatever of value there may be in the method will not be vitiated by and wrong conclusions drawn from improper and careless experiments and administrations.

ILLINOIS STATE MEDICAL SOCIETY.

The Thirty-ninth Annual Meeting of this Society will be held in Jacksonville, commencing on Tuesday, May 21, 1889, at 10 o'clock, A. M. Only two months elapse before the time specified, and it is important that all parties intending to attend or contribute to the interest of the meeting, should be actively preparing their work. The several State Medical Societies constitute the chief and proper basis of the National organization of the profession, and they should be cordially sustained by the most learned and active in all departments of medicine and surgery.

There is room in the State Society for the advocates of every legitimate interest to work, and interchange thoughts and facts with each other, thereby actively advancing the practical interests

and promoting the unity and influence of the whole profession. In a country as large as ours there is no method of complete and efficient professional organization, except that which begins with the municipal and county societies, progresses from these to the State, and from the State to the National; thus establishing the channels of universal intercommunication, and the opportunities for personal intercourse and of harmonious action. During the next two months the State Medical Societies of nearly all the States occupying the middle and northern part of the great interior valley of this continent will hold their annual meetings and we hope to see larger assemblages, a greater number of well prepared papers, and the results of more thorough scientific investigation, in all of them, than at any previous time in their history. The annual meeting of the American Medical Association will follow at Newport, R. I., commencing on the 25th of June. For four previous years that great National organization has held its annual meetings in this interior valley, with steadily increasing attendance. As the next meeting is to be held on the northeastern border for the first time since 1865, it is very desirable that all the State Societies of these great interior States should send full delegations to the meeting at Newport, thereby not only cordially reciprocating the favors of the past four years, but firmly cementing the bonds of friendship and materially adding to the scientific and practical interests of all.

THE MICROBES OF THE STOMACH.

This was the subject of a recent communication to the Académie des Sciences, by M. ABELOUS. In the fluid obtained by frequent lavages of his own stomach (empty) he has isolated 16 species of microbes, the morphological characters and action of which on alimentary substances, he has studied. The 16 species comprise 7 known microorganisms: the *sarcina ventriculi*, the *bacillus pyocyaneus*, the *bacterium lactis aërogenes*, the *bacillus subtilis*, *bacillus mycoides*, *bacillus amylobacter*, and the *vibrio rugula*. Of the 9 species that have not been described, 1 was a coccus, and 8 were bacilli. All these microbes resist the action of artificial gastric juice for a time much exceeding the mean duration of stomach digestion, especially when the cultures were rich

in spores. Each of these species of microbes has a more or less energetic action on certain alimentary substances: 10 attack albumen, 12 fibrin, 9 gluten, 10 cause the more or less complete transformation of lactose into lactic acid, and 13 form variable quantities of glucose from starch. But the most remarkable results, says Abelous, are seen in the action of all these microbes, at the same time, on an alimentary substance, especially when some saliva is added to the substance. Very rapid and very energetic decomposition sets in, with the evolution of gas and the formation of such products as leucin, tyrosin, indol, skatol, certain fatty acids and ammoniacal compounds. It is a fair inference that these microbes are very important factors in the process of digestion. The real theatre of their action, says Abelous, should be the intestine, not the stomach, since the duration of stomach digestion is not sufficient to allow the microbes to decompose appreciable quantities of alimentary material—if one may draw conclusions on this point from a study of artificial digestion.

EDITORIAL NOTES.

THE FLORIDA STATE BOARD OF HEALTH is now, so far as the legislative act is concerned, a reality; it is thought that the Governor will soon appoint the members of the Board. We have not seen a copy of the act, and do not know its conditions and provisions. The Board is to consist of three members, who will select from the State at large a secretary and an executive or health officer, the latter to be a physician. Whether the emoluments of the officers will be sufficient to warrant them in giving the proper attention to their duties we do not know. As a general rule such is not the case. Governments cannot expect to have offices properly filled so long as private enterprise is allowed to outbid the public services. Yellow fever cost the State of Florida millions of dollars last summer; it can never recover that money, but by paying efficient men to look after its health it may avoid the loss of millions in the future.

GENERAL PARALYSIS IN THE FEMALE, in relation to certain menstrual troubles, has been investigated by DR. GILBERT PETIT (*Thèse de Paris*, 1888), who concludes, from 59 cases, that the development of general paralysis in women

often causes menstrual troubles. These troubles are characterized sometimes by a sudden and definite arrest of the menstrual function, sometimes by marked irregularity of the menstrual periods. When there occurs a remission in the course of the general paralysis, the regularity of the menstrual function is re-established. The patients that have no menstrual trouble during the diffuse meningo-encephalitis, appear to resist the disease better than those whose menstruation is completely arrested or made irregular.

A MEDICO-LEGAL SOCIETY has been organized in Belgium. At present the only medico-legal laboratory that exists in Belgium is attached to the University of Gand. Dr. Vleminckx, of Brussels, is President of the new Society, and Dr. C. Moreau, of Charleroi, Secretary. The Society begins with a membership of 40 physicians.

A NEW PRIZE IN HYGIENE has been founded by the widow of the late Dr. Pier d'Hony, of Milan, in memory of her husband. The prize amounts to 1000 fr., which the Royal Italian Society of Hygiene will award for the best memoir on a question of industrial hygiene, special attention being paid to prophylaxis and precaution against disease, injuries, and accidents of any particular field or fields of labor. The memoirs must be in the hands of the Society by February 29, 1890.

TOTAL DESTRUCTION OF THE SPINAL CORD in mammals by means of a stream of cold water, which prevents hæmorrhage, has been studied by M. GLEY. This method enables one to observe the different vaso-motor actions, independently of all nervous influence of central origin. When the cord has been destroyed in this way strophanthus causes a marked general vaso-constriction. By this method one may study the origin of the vaso-motor phenomena produced under the influence of certain medicamentous and toxic substances.

THE INFLUENCE OF TOBACCO-SMOKE ON MICROBES was the subject of a note by HAJECK at the meeting of a Vienna Medical Society on January 17. Basing his researches on the experiments of Tassinari, of Pisa, who showed that tobacco-smoke hindered the development of microbes, Hajeck looked up the vital statistics of Vienna, to see whether diphtheria is less prevalent among

men, who generally smoke, than among women. He found that for the past four years the ratio of diphtheria cases in men to those in women was 1:2.8, or almost three times as many cases in women. This, he claims, bears out the experimental results of Tassinari. It may be suggested, however, that men, as a rule, lead more of an open-air life, and do not, so frequently as women, nurse children and others suffering from diphtheria. Israel showed that tobacco-smoke destroys bacteria-cultures. But it seems that Hajeck has based his conclusions on insufficient data. We should know the other habits of the males that had diphtheria, besides knowing whether or not they smoked.

SUBUNGUAL PULSE.—MARIO SACCHI describes in *Riforma Medica*, 1888, No. 224, a second case of subungual venous capillary pulse. The first case was seen by Giocco in a patient that had tricuspid insufficiency. Sacchi's patient was a woman 60 years of age, with relative tricuspid insufficiency, in which a systolic return current into the veins produced the venous capillary pulse.

THE UNIVERSITY OF PENNSYLVANIA is discussing the extension of its medical course from three to four years. At a recent meeting of the Board of Trustees Dr. William Hunt said, according to the *Philadelphia Press*:

As we raise the standard of the University it becomes necessary to lengthen the term of the medical course, and this will unquestionably be done before very long. In fact, it must be done. The University is one of the most prominent institutions in the medical history of the country. Its course at present provides for a compulsory study of three years in order that the student may obtain the degree of Doctor of Medicine, but our catalogue now recommends that students pursue a four years' course. The additional, or what may be called a post-graduate, year of study, is already provided for, and I think that the extra year will very soon be added to the present three years' term.

At the same meeting of the Trustees a new chair of Histology and Embryology was created, and Dr. George A. Piersol elected Professor. Dr. De Forest Willard was elected Professor of Orthopædic Surgery, which is practically another new chair, and Dr. Samuel G. Dixon was elected Pro-

fessor of Hygiene, in connection with which chair a laboratory will be established. It is announced that Mr. Henry C. Lea has given to the University \$25,000 for the use of the laboratory of hygiene, conditioned on the raising of an equal sum by the University. Of this additional \$25,000 a goodly portion has been subscribed or guaranteed, and it is hoped that the remainder will be speedily forthcoming.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held in Newport, R. I., June 25, 26, 27 and 28, 1889.

The names and addresses of Section Officers and other officers of the Association are printed on advertising page 25.

Special Attention is called to the following Rules of the Association:

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Association, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association,

and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the American Medical Association on the day of 18 . ." (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

SOCIETY PROCEEDINGS.

Chicago Medico-Legal Society.

Meeting of March 2, 1889.

THE PRESIDENT, DR. E. J. DOERING,
IN THE CHAIR.

CLARK BELL, ESQ., of New York, read a paper on

ELECTRICITY AND THE DEATH PENALTY.

(See THE JOURNAL of March 9.)

DR. FRANKLIN H. MARTIN said he did not feel competent to add anything to this paper, on the subject of execution by electricity. If, however, our criminals are to be executed at all there seems to be very little doubt in regard to the superiority of electricity over the gallows, especially if we take into consideration this interpretation of the law as given by the Commission appointed by the State Legislature of New York to investigate this subject, that is, that the State does not

claim the right to inflict punishment upon the homicide in a vindictive or retaliatory sense, or as in any degree as punitive or compensatory for the act committed; that is, we have no right, if this Committee interpreted the law correctly, to inflict other punishment than the death penalty upon our criminals. Electricity seems to me to be the force that should be applied, for this reason. In hanging there are two causes of death; one is the destruction of the nerves of organic life by the breaking of the neck and pressure upon the spinal cord, the other is from strangulation. We have both of these effects where the criminal is properly executed. If from the time the noose begins to tighten upon the neck of the criminal until death is declared by the physician in attendance, in any degree measures the time that the criminal must suffer, we certainly can see that electricity is superior. While this cord is tightening on the neck of the criminal and death is taking place, a current of electricity might pass through the criminal and do its work and pass to the sun and return, so that if consciousness ceases at the time the current passes through the criminal's spinal cord and brain much suffering must be prevented. The consideration of methods has been so thoroughly discussed by the paper that there is certainly very little left to say. In the first place the position of the criminal must be considered; and the electrodes that conduct the electricity to him must be properly applied; also the kind of current and its strength must be considered. The electrodes described in the paper, that is, large sponge electrodes, or electrodes 3x4 inches covered with sponge or chamois and saturated with salt water solution, must be the electrodes applied if we desire to prevent mutilation. If these electrodes are applied one at the top of the head and the other at the back of the neck, the part of the human system in which consciousness lies is destroyed immediately. Experiments immediately made on lower animals show that the structure of the brain with a powerful alternating current, is entirely destroyed. This is not the case, of course, with hanging, where strangulation is the cause of death. The current described as alternating, is possibly not thoroughly understood by all. It is not an interrupted current, as one statement in this paper might lead one to believe; it is a current that changes its polarity at every interruption; the current is a to and fro current. In a current from a Westinghouse electric light dynamo the polarity is changed 600 times in a second, and the current is deadly in the extreme. Although it seems almost presumptuous for any one to bring a question up at this time after the opinion expressed by Mr. Edison, still there is a question with regard to the proper apparatus for the execution of criminals. It seems that the dynamo, engine and apparatus necessary for execution by the method described

in this paper can be obtained only at an expense of \$5,000. The kind of electricity that is most deadly, and we have a great many examples of its action, is the current in the lightning stroke; that is, the static electricity, or the Franklinic form of electricity. While it is the same electricity, probably, as that we receive through our dynamos, it is one of very high electro-motive force. A machine with a 54-inch wheel and an apparatus that would cost in the neighborhood of \$500 will give an instantaneous shock that will prove as deadly, without doubt, as the alternating current generated by a \$5,000 apparatus. In adopting electricity as the mode of execution there are certainly grounds yet for further experiments.

DR. PLYM. S. HAYES: There are several points of interest in regard to death by electricity that I have not seen mentioned in recent literature on the subject. Decomposition takes place almost immediately after death by lightning. Prof. Richman, of St. Petersburg, a contemporary with Franklin, had in his laboratory a metallic ball which passed, by means of a metallic conductor, through the ceiling and terminated on the roof in a sharp point. When not using this electricity he connected this ball, by means of a chain, to the earth. When he wished to collect the electricity he would disconnect the chain. One day he passed within 18 inches of this ball and the current jumped across and he was killed, and so rapidly did decomposition set in that he had to be buried almost immediately. Again we find that when death occurs from lightning-stroke *rigor mortis* does not occur. Again we have instances in which the person is fixed immovably, sometimes standing.

In looking up the subject for life insurance I found there were one or two men in the city of Chicago who had taken a current of electricity of sufficient strength, under ordinary circumstances, to kill a man, but who escaped with their lives. Again, I found that if the current was gradually increased and then as gradually diminished, a man could take a tremendous current, one which would usually have killed him, but being a continuous current of great evenness gradually increasing and diminishing, the man escaped without injury. There is a point mentioned in this paper, and which I have seen mentioned in some of the medical journals. One journal stated that 500 volts would kill. And in the paper that has just been read the point has been raised in regard to the number of volts necessary to be used, and it is recommended that from 1,000 to 1,500 volts of current be used. Now they say nothing of the ampèreage of the current. It seems to me that ampèreage cuts just as much of a figure as voltage. In the case of static electricity we find that between the conductors of a machine, where we can get a spark of 6 or 7 inches, we will have an electro-motive force of not less than 3,000 volts, and

yet there is not one of us in this room but can take that through his body without injury, because there is no ampère to speak of. But if the spark jumps a foot then it is decidedly more dangerous; but even then it depends upon the condensers (Leyden jars) connected with the machine. We know that we can take a shock from a machine throwing a spark 7 inches, and yet with the same shock, where more volume (ampère) is given, we know that the result would be fatal. There is an induction coil in England that gives a spark of not less than 24 inches; it is estimated that that would destroy life instantly, and it is a dangerous plaything, to say the least.

To use the frictional machine for the death penalty would not be advisable because, even with the best frictional machines produced at the present time it would be impossible at certain seasons of the year, during the summer especially, for weeks at a time, to get a sufficient current to carry out the penalty. I think when we speak of voltage we should have ampère. In the arc light the ampère is great and we have a voltage comparatively low as compared with the voltage of the static electric machines.

I received at one time a current from 1,140 cells of the gravity (Callaud) battery. It was before the days of electric light in Chicago, except that obtained by the battery, and a gentleman was very anxious to use a lantern he had imported from England, in which the electric current was to be employed; so we worked up in the top story of the Western Union building one evening and had 1,140 of their battery cells connected together. We got an arc light of 3 inches; that is, the carbons of the lamp were separated 3 inches after the light was started, but the light was so faint that you could look at it with the naked eye, and it probably did not give more light than one of the Edison burners here. I accidentally got hold of the two poles. I was shocked two or three times, the muscles contracted very rigidly, and I had some deep burns on my hands for several days, but beyond that no injury was done to me, and I probably received not less than 1,000 volts through my person. If you say a man has taken a thousand volts, you might as well say a man has eaten a mile of sponge cake; well, he could eat a mile of cake if it was cut thin and narrow enough. And so it is with the electric current, there are two dimensions; there is the electromotive force, the power of overcoming resistance; and there is the ampère, the quantity of volume. Or, the voltage is velocity, while ampère is momentum, that is, it is velocity with mass added to it. Now, a cannon ball may have the same velocity as a musket ball, yet a cannon ball will do many more times the damage that a musket ball will do. The difference is not in the velocity but in the momentum. It seems to me one factor has been omitted in this discussion; ampère-

age has not been taken into consideration in connection with the voltage. Of course, in these electric light machines there is a certain amount of ampère, so there will be no difficulty about the criminals being duly executed by the use of any of the instruments that have been suggested in the paper read to-night.

DR. F. C. HOTZ: As physicians we are not interested in killing people, no matter whether it is done in an apparently brutal manner or in a very elegant manner, but we are interested in allaying suffering. Therefore the question that concerns us, is simply whether the criminal suffers during the hanging or during the time that his head is being cut off, or while an electric current is passing through his body, and by which of these methods does he suffer the most. Some of the speakers seem to take it for granted that hanging inflicts a great deal of suffering upon the person. I don't speak from personal experience, but from what I have read in articles written by good observers and gathered from people that had been called back to life after a rope had been strung around their necks, I think this is a wrong impression. What does suffering or pain presuppose? A man can only suffer as long as he is conscious; whenever our consciousness is gone we do not suffer. We all know that when we give a man chloroform we can inflict any amount of injury on his body and he will not feel it; he will not suffer. In putting the rope around the man's neck, as he is executed in this country, and dropping him down so that his weight tightens the rope quickly, often dislocating the neck and acting directly upon the centre of respiration, the arteries supplying the head are so quickly compressed that the arterial supply is cut off. The fact that the pulse is beating in the wrist does not prove that a person during that time is feeling anything. In the half of a second or a second his consciousness is gone and there is no more feeling. In using the guillotine the arterial supply is cut off at once, and if there is anything that will instantly remove consciousness thoroughly and thereby save the criminal any suffering, it is the guillotine, while the electric current, I understand, has to be applied from fifteen to twenty-five seconds. That is taking a long time to kill a man compared with the guillotine or a rope! I think that these recommendations are based upon a wrong foundation; I do not think there is any suffering or any cruelty connected with the act of hanging. The suffering of the criminal is all done before he drops down, physically and mentally. The recommendation that these executions ought to be done privately, without the presence of any one except the jury, etc., and without even the criminal being notified of the exact moment when it is to be done, is all proper and well. But the electric apparatus is no improvement on the present *modus operandi*. It

requires a costly and cumbersome machine which will seldom be used; and probably, when one wishes to use it, will not be in order. I would suggest that if the State of Illinois wants to improve upon the mode of execution, let us go back to the very classical way the old Greeks did this thing: send the criminal a glass of wine fully charged with prussic acid; with the compliments of the sheriff.

DR. N. S. DAVIS, SR.: Mr. President, I only rise to add a word to what has been said about the common impression as to suffering by hanging. I think the most reliable evidence we can get on the subject is from those who have given much attention to it. Taylor, in his "Medical Jurisprudence," and other authors, agree that the consciousness of the individual following the drop is just like a flash of lightning before the eyes, and that is the last consciousness he has; but the idea in the community is that the individual is suffering as long as his muscles are contracted and his body is moving, or until his pulse stops. You may just as well say that an epileptic man is suffering merely because he is in violent convulsions; when the fact is that he has not the slightest consciousness after the first impression reaches his throat until it passes off; although he is in violent contortions, yet it passes away, and when he comes to consciousness he has not the slightest recollection of suffering at all. So a drowning person, if kept beneath the water, would have no consciousness beyond a few seconds, unless he is skilled and refuses to take breath. The mouth and air tubes fill with water the first breath he takes in and the oxygen can no longer oxygenize the blood, and it is but a very few seconds before he is unconscious, though he may still make muscular movements. We all know that a chicken's body hops about for a considerable time after its head is cut or wrung off, but we do not imagine that the chicken is suffering. I make these remarks merely on account of the error that is prevalent about the amount of suffering from hanging. It is said that they make mistakes in adjusting the rope, but want of skill might cause mistakes by any method. Some think that the neck is usually broken, but reliable investigations show that dislocation or breaking of the neck takes place only in a small minority. We know that it takes place in some, but in less than one-quarter. In some the circulation and respiration are cut off and the neck broken, all three, but the majority are rendered totally unconscious and die by simply shutting off the air and stopping the circulation. A man in England took up the trade of exhibiting before popular audiences the practice of hanging, and carried it on for a considerable time by hanging himself, to show the process. He did this successfully and made a profitable business of it for some time, but he finally let himself go a little too far in bringing the pressure

upon the front part of the neck, and actually lost his consciousness completely. The audience supposed it was all play and let him stay there until he was permanently dead. This put an end to that class of exhibitions.

DR. G. C. PAOLI: While I admit that electricity is an improvement on hanging, which is a relic of barbarism, I abhor capital punishments. There is not at present a single nation in the world that can boast of Christianity, with the exception of individuals, but the time is not far distant when capital punishments will be abolished. The question now is, which is the best, the most humane method of destroying life. In my opinion, subcutaneous injections of aconitia. The experiments made on animals during the last twenty years have convinced me that this alkaloid produces death by paralyzing the action of the heart, and consequently the individual dies a painless death in a few minutes.

DR. J. C. HOAG: Although I was puzzled before coming here to appreciate the necessity of any change in the mode of administering the death penalty, I am still more so after having heard this paper read. One point in particular puzzled me very much: The writer says that they make no claim that the State has any right to administer the death penalty in a retaliatory or punitive manner. Now, if there is nothing of retaliation or punishment in capital execution I think we may as well abolish it altogether. To my mind capital execution is executed not so much to rid the State of a dangerous member of society as to deter others from the commission of similar atrocities. Then again, as has been stated, the administration of the death penalty by means of electricity is likely to be both a cumbersome and expensive innovation. The administration of the penalty by means of poisons I think is open to very grave objection; that is, if easy means of poisoning are made known to the public it will certainly have a tendency to increase suicide. The public, becoming familiar to a greater or less extent with these powerful agents, will know what to choose, and they will no longer resort to the uncertain and unpleasant rat poison, but they will at once adopt the poisons approved by the State. Again, I do not know that it is necessary to divest the death penalty of a certain amount of horror. If they that are obliged to administer it are familiar with the fact that the criminal at once loses consciousness, I do not know that it is necessary to relieve the public mind from all apprehension on this subject. I think something might be done in the way of making the death penalty a little less attractive. Of course there is no doubt of the potentiality of electricity to dispatch the criminal *tuto cito et jucunde*, but I do not think it is necessary to execute him *pleasantly* if the means adopted be safe and rapid. With regard to the various modes of execution, I have long thought that there was

nothing better than the guillotine. Hanging is well enough if the rope does not break, but there seems to be very little difficulty in execution by means of the guillotine. Although I have never seen an execution by this means I have examined the guillotine, and always thought that it was a rapid and satisfactory method.

DR. J. E. STUBBS: I wish to place myself on record as being in favor of hanging in preference to execution by electricity. It has been remarked by others that the victim becomes unconscious almost immediately in hanging; and I think it is the experience of those that have fallen from any considerable height that at the moment they lost a firm footing, consciousness almost immediately ceased, and I judge it is the same way in hanging, when the drop falls consciousness ceases, only a sensation of falling is realized, and the sudden jerk ends the physical suffering instantly. The pain is the mental dread of yielding up life. I cannot see that there would be any improvement in death by electricity, for it is not certain whether electricity kills in five seconds or half an hour. Some persons have taken large quantities of electricity and have lived; but I do not know that we have any record of a being legally hanged for half an hour and coming to life again. We have no positive record of man having consciousness after he had reached the end of the rope in the drop from the gallows: Until a better way of executing criminals has been demonstrated I am in favor of hanging.

DR. GEO. E. WEBSTER: With regard to whether the criminal loses consciousness or not until after the heart ceases to beat, it is a well-known fact that in cold blooded animals the heart may continue to beat for several hours after removing it from the body. In warm blooded animals the heart beat is automatic and it will continue to beat a long time after removal. I have succeeded in keeping a mammalian heart beating for a number of hours after removing it from the body. So that the fact that the heart is beating, and that we can feel the pulse, does not indicate life or consciousness. As to the point brought up in regard to drowning: it is a well-known fact, and there is one instance on record of an individual who lived after being submerged for fifteen minutes. During the 15th century there was a law in Germany to punish the crime of infanticide by death, by drowning. The law being that the woman should be placed in a bag with a cock and a cat and drowned, being submerged for fifteen minutes. A case of this kind occurred in which there was spontaneous recovery after the woman had been submerged fifteen minutes.

THE WESTERN NORTH CAROLINA MEDICAL COLLEGE, it is said, is the name of a new medical college to be established in Asheville.

Medical Society of the District of Columbia.

Stated Meeting, November 28, 1888.

SWAN M. BURNETT, M.D., VICE-PRESIDENT,
IN THE CHAIR.

Dr. George Woodruff Johnston presented microscopic slides of a case of *Supposed Primary Cancer of the Fallopian Tubes*.

Dr. J. Taber Johnson presented the specimen and read the history of a case of *Cancer of the Ovary*.

DR. D. S. LAMB presented the specimen and gave the notes of the necroscopy of a case of

CANCER OF THE RIGHT KIDNEY.

Dr. N. S. Lincoln gave the following history of the case: The man first consulted him in the early part of the summer of 1888 for pain in the right side, irritability of the bladder and bloody urine. He sent a specimen of urine to Dr. Schæffer for microscopical examination, and he reported the presence of blood, pus and other elements of malignant disease. There was a tumor, about as large as the fist, on the right side, which descended about half way to the bladder. There was pain in this region which he had had since January, 1888. He diagnosticated malignant disease, and told the man's family that it was necessarily fatal. Dr. J. Ford Thompson was then called in consultation and the patient was examined under chloroform. The tumor was now quite movable, and Dr. Thompson recommended its removal. There was no enlargement of the left kidney noticeable. Dr. Lincoln did not agree to the operation proposed by Dr. Thompson because he believed the tumor to be malignant. Dr. D. Hayes Agnew, of Philadelphia, was then summoned. He agreed with Dr. Lincoln as to the malignancy of the tumor and would not sanction an operation. The man gradually failed and died. The growth was movable when Dr. Thompson examined it, and, consequently, seemed favorable for an operation.

Necroscopy on Horace S. J., white, æt. 61, who died Nov. 3, 1888. Made for Dr. N. S. Lincoln. Old pleuritic adhesions both sides; some hepatization in lower lobes of lungs; several small deposits of obsolete tubercle; some pus in bronchial tubes. Heart small; slight atheroma of aortic valve and aorta. Liver small; showed several cancerous nodules, from very small size to 1.5 inches in diameter; some softened in center. Spleen small. Pancreas normal. Greater omentum contained several cancerous nodules, size of shellbarks, and softened in center. Stomach normal. Duodenum firmly adherent to pelvis of right kidney and contained in its wall several nodules of cancer. Scybala in large intestine. Right kidney about twice natural size, lower half a mass of soft cancer, much of it broken down; debris in recent state was mixed with blood-clot

and contained about ten calculi, large and small, the largest one having branches. Upper half of kidney converted into a sac, with wall of varying thickness; in recent state sac contained purulent urine, and was no doubt formed by pressure of subjacent tumor on ureter. Capsule of kidney was everywhere adherent, and fatty capsule contained several masses, size of shellbarks, softened in center. Pelvis dilated and ulcerated. Upper part of ureter thickened and showed small cancer nodules. Right suprarenal capsule enlarged and cancerous. Left kidney weighed 7 oz.; showed several cancerous nodules, superficial and deep, some of them softened; papillæ swollen, with minute cysts of surface; pelvis dilated from pressure of adjoining tumor of kidney. Bladder and prostate normal. Inferior vena cava dilated and opposite kidney contained blood-clot adherent to wall. Suprarenal vein also contained blood-clot. Abdominal aorta atheromatous. Connective tissue along right side of lumbar vertebræ thickened and firm. Some small exostoses on bodies of corresponding vertebræ.

DR. E. M. SCHLEFFER read a paper on

THE MICROSCOPICAL DIAGNOSIS OF CANCER.

(See page 403.)

DR. J. FORD THOMPSON took special interest in this subject of diagnosing cancer by the microscope, as well as in the case presented to-night. He could not agree with Dr. Lincoln in refusing to sanction the operation, because the diagnosis of malignancy had been given. A large percentage of tumor removed are malignant; two have been reported to-night of which one is well and the other is rapidly recovering. Dr. Lincoln's case looked favorable for a nephrectomy as the tumor was movable. The uterus or breast is removed for cancer if the surrounding tissues are not too much involved. Hysterectomy for cancer is comparatively favorable; he had operated on a case two years ago, and the woman is now doing well. If the complications had been found or known to have existed he too would have opposed an operation; but these were only found at the autopsy. He could not agree with Dr. Lincoln in excluding all cases of nephrectomy because of malignant disease. He had never seen a case in which he would rely upon the microscope for the detection of malignant cells in any fluid of the body. He was not alone in this opinion as most surgeons consider that an absolute diagnosis is impossible. In malignant diseases of the bladder surgeons do not rely upon urinary analysis. It is impossible to make a correct diagnosis from decayed cells found in the fluids of the body. The same is true of the stomach and intestines when the fluids and cells are discharged. He had accepted such a diagnosis once and that was not right. The recent European experience should teach us that it is

impossible to diagnose with certainty a cancerous growth even when it can be seen and felt by distinguished surgeons and pathologists.

DR. LINCOLN had not based his opinion of malignancy on the cancer cells as much as on the patient's general condition, with the tumor and cachexia. From the mobility of the growth he was inclined to agree with Dr. Thompson, but he was compelled to accept Dr. Schæffer's report. The urine may not present cancer cells at all times.

The discussion was continued until the next meeting.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR REGULAR CORRESPONDENT.)

The Hospital-Ship Queen Victoria—Lady Students of the St. John's Ambulance Association—Sulfonal—Home for Trained Nurses in Egypt—Iodoform and Tar—Administration of Nitrous Oxide and Ether—Tying the Lingual Artery in Excision of the Tongue.

The hospital-ship *Queen Victoria* which has been built at Great Yarmouth as a memorial of the Jubilee, is to cruise in the North Sea, for the purpose of rendering medical and surgical assistance to the fishermen who are engaged in those waters. The vessel was taken into Osborne Bay, where the *Queen* and the *Empress Frederick* drove down through the grounds to the beach and viewed the vessel, after which they witnessed a number of experiments with a new ambulance stretcher. The *Empress Frederick* and her daughters afterwards went on board the ship and were shown all over her, and the *Empress* kindly promised to send a number of books for the library. Last year three vessels which had been sent to the North Sea had 153 in-patients and 7,350 out-patients. The surgery and hospital of the new vessel is fitted up with every convenience likely to be required.

The lady students of the St. John Ambulance Association, in Birkenhead, outnumber the gentlemen, it appears, in the proportion of 153 to 144. An excellent account is given by the examiner of the pupils who, according to his report, were found to be extremely well up in practical work, and all showed great interest in bandaging, removal of injured on stretchers and arrest of bleeding. In addition to practical work, the ladies were given many questions in physiology, etc., and the answers were readily and correctly given. Lest any one should suppose that the ambulance classes are a mere whim and pastime it may be noted that during the last six months of last year the certificated members in Birken-

head were reported to the Secretary to have attended personally to the following casualties: Broken thigh, 3 cases; broken upper or lower arm, 5 cases; broken leg, 4; running over, 3; concussion of brain, 2; apoplexy, 2; pistol shot, severance of palmar arch, and man crushed between carriage step and platform of railway. These are in addition to what are called "police cases," which have a special report book of their own. The Association has now lived long enough to silence all scepticism regarding the substantial benefits of its noble labors.

Sulfonal still continues to attract considerable attention and its use is becoming general. A number of cases of the most varied affections have been treated with sulfonal where there has been nervous insomnia. In 65 per cent. of these sleep was produced within three hours. In the nervous cases this action was even more pronounced, for in 90 per cent. of them the indications were successfully fulfilled. Sulfonal is consequently recommended as a good hypnotic, especially in doses of 15 to 30 grains. Where the insomnia is the result of some direct organic disturbance its action is more or less uncertain. It has the advantage of having no smell and no taste, and it does not affect either the patient's temperature, pulse or respiration, and is consequently to be preferred to chloral or morphine, however, in all cases where there is any heart weakness it is to be guarded against. In other respects the insignificant disturbances which it occasionally produces are not of sufficient importance to be counter indications for its use. Some observers believe sulfonal to be preferred to all other hypnotics. It must be given, as a rule, one hour, at least, before it is desired that sleep should be produced. It has been found quite unreliable when cough or neuralgia are the cause of the insomnia.

Sir Sydney and Lady Waterlow have left London for Egypt. Sir Sydney is proceeding to Cairo for the purpose of permanently establishing the "Home for Trained British Nurses," for which he, in January, 1888, obtained the permission of His Highness, the Khedive. Some nurses have already commenced work in Cairo, and a committee has been formed for the proper management of the institution there. The committee consists of Dr. Greene Pasha, Dr. Milton, with Dr. Sandwith as honorary Secretary.

Experiments have been made with iodoform combined with tar, the notion being that the latter, an oily substance, would diminish the volatility of the iodoform, which is looked upon as the cause of the diffuse erythema caused by the latter, and also because tar often brings gangrenous and septic ulcers into a healthy condition. In the preparation used the particles of tar and iodoform are so intimately mixed together that only hyaline plates can be discovered when the new preparation

is examined under the microscope. The characteristic crystals of the iodoform cannot be discovered at all. The preparation can be very easily pulverized and has a peculiar spicy odor, not at all disagreeable, besides which this odor is so weak that it is only perceptible when the nose is applied to large quantities of the compound in question. If, however, it is required to disguise the slight scent alluded to, it may be done by adding a small quantity of styrax liquidus to the powder and rubbing both substances together. The disease to which the new preparation of iodoform has been applied are soft ulcers, as a dressing after the opening or excision of suppurating or strumous inguinal buboes, gummatous ulcers, and ulcerations of the foot. It is applied thus: The preparation is brushed over the part, which is then covered with a thin layer of wadding, over which an ordinary dressing is applied. The dressing is changed every twenty-four or forty-eight hours. In special cases it has been changed twice a day, for instance, in soft ulcers where the suppuration is very profuse.

Under the title of "Select Methods in the Administration of Nitrous Oxide and Ether," Dr. Frederic Hewitt, of the London Hospital, has supplied a condensed manual for practitioners and students. After some suitable introductory remarks, precise directions are given for the administration of nitrous oxide, for the administration of ether and of nitrous oxide with a small quantity of ether, as well as for the administration of nitrous oxide as a preliminary to etherization.

Dr. F. B. Jerrett, in a paper describing his method of tying the lingual artery in excision of the tongue, especially refers to cases of excision of the tongue with scissors, where the hæmorrhage was often very severe, and even alarming. Moreover, his method, to a great extent, prevents blood finding its way into the air passages, with the subsequent danger of septic pneumonia. Again, in removing the tongue with the scissors, if the artery was not seized directly it was divided, it often retreated, and the bleeding point was with difficulty seen and secured. He had had opportunities of putting the method into practice and had found it effectual. The operation was performed by drawing the tongue well out of the mouth, the frænum and mucous membrane of the floor of the mouth around the half or whole of the tongue if the entire organ was to be removed, was divided in the ordinary way, with scissors slightly curved upon the flat. The tongue next being drawn well forward and upwards, a few fibres of the genio-hyo-glossus muscles were divided and torn deeply through with the fingers. An ordinary aneurism needle threaded with No. 4 Chinese silk was thrust deeply down between the two genio-hyo-glossus muscles, the point being directed downwards and backwards, until it was opposite the second molar tooth. The

point was then turned outward and brought out of the incision previously made through the mucous membrane, unthreaded and withdrawn. The ligature was next tied firmly and as deeply as possible. A pair of clamp forceps were passed down and made to catch the tissues on the distal side of the ligature, to prevent the possibility of the ligature being snipped as the tongue was being removed. If necessary, the same was done on the opposite side.

G. O. M.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

THE PARIS SCHOOL OF MEDICINE—I.

I propose describing as briefly as possible the Paris School of Medicine and the subjects that are taught in it. Those who have not visited this city for the last 15 or 20 years, will scarcely recognize the quarter in which the building of the School of Medicine stands, as the place has become completely transformed. The old building has been considerably enlarged, and fitted up with laboratories for carrying on various researches. The old Hospital des Cliniques which stood opposite has been razed to the ground and the Ecole Pratique has been built on its site. It contains eight pavilions for students carrying on dissection. Each pavilion consists of sixteen tables, and each table supplies room and furnishes material gratuitously to five students.

The degree of Doctor of Medicine in the University of France is conferred by the Faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the Government. The first three are Schools of Medicine, the others are mixed Faculties of Medicine and Pharmacy. There are three Ecoles de plein exercice, Nantes, Marseilles, and Toulouse. There are preparatory schools at Algiers, Amies, Angers, Besançon, Caen, Clermont-Ferrand, Dijon, Grenoble, Limoges, Poitiers, Reims, Rennes, Rouen, and Tours. The studies necessary for obtaining the degree of M.D. extend practically to about five years. During the first three years the student may attend either one of the Faculties, or an Ecole de plein exercice, or one of the Preparatory Schools of Medicine and Pharmacy. The studies of the fourth year can only be pursued in a Faculty or in an Ecole de plein exercice. Before he begins his curriculum the student must take out sixteen inscriptions, but before doing so he must present the diplomas of Bachelor of Letters and of Sciences. Foreign students, however, are admitted to what is called an equivalence of grade in respect to these preliminary studies, that is, certificates of analogous private studies and of examination of arts elsewhere. The following is the course of study through which the student has to pass: First year: physics, chemistry and nat-

ural history. Second and third years: anatomy and physiology. Fourth year: operative surgery and pathology. Attendance on hospital practice, which is also obligatory, commences after the eighth inscription and continues through the remaining period of study. There are five examinations, the first after the fourth inscription and before the fifth. The subjects of the five examinations are as follows: First examination: physics, chemistry, and natural history, in their application to medicine. Second examination: first part, dissections, anatomy and histology (oral); second part, physiology (oral). Third examination: first part, performance of operations, external pathology, midwifery, and operative surgery (oral); second part, internal pathology, or medicine, and general pathology. Fourth examination: hygiene, forensic medicine, therapeutics, materia medica, and pharmacology. Fifth examination: first part, clinical surgery and obstetrics; second part, clinical medicine and practical demonstrations in pathological anatomy. After the five examinations, the candidate must present a thesis on a subject chosen by himself. This he may pass at any time after having pursued the fifth examination, and must be printed at his own expense. But to entitle him to his diploma he must present a certificate of having passed a curriculum in the hospitals and of having attended them regularly for two years. Candidates for the diploma of Officier de Santé (an inferior grade), must also take out sixteen inscriptions, the regulations regarding which are the same as for the degree of doctor. There are six examinations for this grade. First, in physics, chemistry, natural history, and elementary anatomy (bones and ligaments). Second, in descriptive anatomy and physiology. Third, in medicine and surgery. After the sixteenth inscription, which takes place at the end of the third year, there are three final examinations (examens définitifs). First, in dissection, anatomy, and physiology. Second, in operative surgery, medicine, surgery, therapeutics, and materia medica. Third, in clinical medicine, surgery, and midwifery. No thesis is required. Foreign medical practitioners desirous of permission to practice in France as Officiers de Santé, must present their diplomas to the Secretary of the Faculty of Medicine. If the Council of the Faculty report favorably the permission is granted. Foreign practitioners wishing to obtain the degree of Doctor of Medicine must pass the last two examinations and present a thesis, paying full fees for all the examinations they would have had to pass had they gone through the ordinary course. Exception may be made in the case of medical men of acknowledged eminence, to whom the Faculty may at once grant all the privileges of the doctorate. Foreigners may be admitted to any of the French Faculties on presenting their certificates of study in their own countries and paying

an entrance fee of £4. The total cost of fees for the whole curriculum of medical study, and for the whole series of examinations and the diploma of M.D. of the University (during five years) amounts to 1,360 francs. Officiers de Santé pay 450 francs for their examinations.

The School of Medicine in Paris is open to all who wish to attend the courses and take the degrees. Great facilities are afforded to foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 40 francs is expected from each student. The instruction in the Faculty is given by the following Professors: Drs. Farabœuf, Anatomy; Mathias Duval, Histology; A. Gautier, Medical Chemistry; Baillon, Natural History; Gariel, Medical Physics; Regnault, Pharmacology; Dieulafoy, Internal Pathology, or Medicine; Duplay, Practical Surgery; Lannelongue, Surgery; Hayem, Materia Medica and Therapeutics; Cornil, Pathological Anatomy; Laboulbène, History of Medicine and Surgery; Tarnier, Midwifery; Proust, Hygiene; Brouardel, Forensic Medicine; Strauss, Comparative and Experimental Pathology; Germain Sée, Potain, Jaccoud, and Peter, Clinical Medicine; Richet, Verneuil, Trelat, and LeFort, Clinical Surgery; Budin (pro tem.), Clinical Midwifery; Grancher, Diseases of Children; Charcot, Diseases of the Nervous System; Panas, Clinical Ophthalmology; Ball, Mental Pathology; Fournier, Diseases of the Skin and Venereal Diseases.

Auxiliary courses are given by Agrégés, or Sub-Professors, on all the above named subjects. Practical instruction is also given under the guidance of Agrégés who are styled Chefs de Travaux and Chefs de Laboratories. The Faculty of Medicine possesses laboratories for the various branches of medical science, and there are also laboratories for practical instruction at several of the hospitals.

A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Simple, Non-tubercular, Non-metastatic Abscess of the Lungs—Pigmentation of the Body by Arsenic.

At the last meeting of the Section on Practice of the New York Academy of Medicine, Dr. S. Seabury Jones read a paper on *Simple, Non-tubercular, Non-metastatic Abscess of the Lungs*. This was a subject, he said, which had received but little attention. The affection, however, was comparatively rare, and Trousseau in the first twenty-five years of his hospital practice did not meet with a

single case, though he afterwards reported two cases. Laennec met with only five cases in several hundred autopsies on those who had died of pneumonia. In 1848 Robert Graves reported six cases. When Dr. Jones encountered his first case, now nine years ago, he was unable to find any reference to the subject whatever in any of the text-books to which he had access. Later some attention was given to it in Pepper's System of Medicine; but in von Ziemssen it is referred to only as a sequel of croupous pneumonia. Simple abscess, he thought, would doubtless occur more frequently than it does were it not, as Stokes has pointed out, that the lungs are provided with such an admirable natural system of drainage through the bronchial tubes.

Practically speaking, it is liable to be met with in one of four forms. The first is that in which the symptoms are very obscure from the beginning, and remain so until there suddenly occurs a discharge of purulent matter. In the second form the symptoms resemble those of pleurisy with effusion, and in the third those of pulmonary tuberculosis. The fourth is that associated with the variety of pneumonia which advances slowly from one lobule to another, or is characterized by a tendency to skip from one lung to the other. Dr. Jones said he had personally met with all the forms except the first, but undoubted cases of this variety, occurring in the experience of others, were on record. Abscess of the lungs is always accompanied with a depreciation of the general health, and alcoholism is apparently a prominent factor in its production. It is an affection confined to no particular age, and Dr. L. Emmett Holt, of New York, has reported in the *Medical Record* a case that occurred in an infant only 3 months old.

Dr. Jones' first case was in a young man 17 years of age, of rather delicate health, and affected with lateral curvature of the spine, who came under observation September 25, 1879. While in his usual health he was attacked with severe pain in the left side, accompanied with cough, but no expectoration. At the time he was seen the pulse was 120, and the temperature 102°. Anteriorly there were no abnormal physical signs, but posteriorly, in the subscapular region on the left side, there was complete dullness on percussion, although no râles whatever could be found, and there was still no expectoration. About October 1 a large abscess of the tonsil developed, from which pus discharged freely, and subsequently there was a discharge of purulent matter from the lungs through the mouth. After this the patient made a rapid recovery, and had no further trouble subsequently. He was led to consider this as a case of simple abscess of the lungs, *first*, on account of the short time intervening between the appearance of the first symptoms and the discharge of pus; *secondly*, on account of the occurrence of the tonsillar abscess, showing a tendency

to the formation of abscesses in the system; *thirdly*, from the rapidity of the recovery; and, *fourthly*, because of the dulness found on physical exploration being exclusively posterior.

He was afterwards confirmed in his opinion in regard to the nature of the case by the report of a case published in the *Lancet* by Dr. Henry Payne in 1882. The patient, a man 23 years of age, was treated for some time, but without relief, for pleuritic effusion, and was afterwards supposed, from the nature of the symptoms, to have empyema. Accordingly, an incision was made just above and parallel to the seventh rib in the anterior axillary line. Upon opening the pleura there was a very profuse hæmorrhage of dark venous blood, which could be arrested only by the injection of perchloride of iron solution. About 15 ozs. of pus escaped, and a drainage tube was inserted. There was a very profuse discharge, which in a few days became fetid. The patient continued to do fairly well for nearly a week, when the temperature suddenly rose to 104° and he was seized with violent pains in the chest, and within twenty-four hours after this he died. The autopsy showed the whole of both surfaces of the left pleura adherent, without a drop of fluid in the sac. The external opening made in the chest wall led into a large, irregular cavity situated in the centre of the lung, which was in a state of hepatization. It was therefore seen to be a case of pneumonia, terminating in the formation of an abscess.

Dr. Jones' second case was observed in 1886. The patient was a male, 40 years of age, who was attacked, like the first, with tonsillitis with the formation of an abscess. The suppuration was accompanied with fever, which was ushered in by a chill, and a considerable discharge of pus followed the opening of the abscess. Subsequently he had another severe rigor, followed by high temperature, and coughed up a cupful of pus and dark-colored blood. Still later there was another discharge of similar character, and the matter coughed up was found on microscopic examination to contain the pneumococcus of Friedländer. In this case there was an area of dulness at the base of the right lung, with local tenderness on pressure.

The third case was one in which the symptoms resembled those of tuberculosis. The patient was first troubled with palpitation of the heart, which he believed to be due to gastric derangement. There was a considerable loss of flesh (amounting to 40 lbs.), and the temperature ranged from 100° to 102° , while physical examination revealed an area of dulness in the right subclavicular region. A general tonic treatment was prescribed, and the patient was sent to the country for the summer. In July he coughed up a considerable quantity of pus and dark-colored blood. Afterward the expectoration was profuse, and he suffered from night-sweats and became greatly emaci-

ated. He then began to improve and, as repeated examinations of the sputa failed to detect at any time the presence of the bacillus tuberculosis, the case was regarded as one of simple abscess of the lungs, and a favorable prognosis made. In a few weeks the patient regained his usual health and weight, although a small cavity still remained in the lung. Two years afterward he was seen, in excellent health, and no sign of a cavity could be detected.

He next cited a case reported in the *Lancet* by Mr. T. Pridgin Teale, in 1884. The patient was a male, 54 years of age, who had been ill for three months, and the earlier history of the case was very obscure. Later it was believed that there was fluid in the right pleural cavity, and, after consultation, the thorax was punctured low down with the small trocar of Bartlett's applicator, but only 2 drachms of fluid, which was clear and straw-colored, could be obtained with the suction of the aspirator. Being still confident that fluid was present, Mr. Teale made a fresh puncture higher up, when very offensive, thin, greenish pus appeared; and after careful and continuous aspiration about a pint of pus was withdrawn. A fortnight afterward, the patient in the meanwhile having become more hectic and grown generally worse, an incision was made at the site of puncture, and the pleura opened. No pus appeared (only a small quantity of serum), and the lung felt dense and boggy, instead of crepitant and elastic. On introducing the trocar and puncturing the lung, pus appeared. The puncture was then enlarged so as to admit the finger, and 2 pints of exceedingly fetid pus escaped, after which a drainage tube was inserted, and the cavity syringed out with a weak solution of carbolic acid. The after-progress of the case was extremely critical and tedious, but the patient finally made a good recovery.

Simple abscess of the lungs, although, as had been stated, comparatively rare, Dr. Jones believed to be more frequent than was generally supposed; and in the future he thought it would be more easy to recognize than formerly, since Koch's brilliant discovery of the bacillus tuberculosis now enabled us to make a differential diagnosis. The main point when an abscess had manifested itself was to decide between tubercular and simple abscess, and while great rapidity in the development of the symptoms was always a point in favor of simple abscess, the real test was to be found in the microscope. Including the three cases narrated in the present paper, and exclusive of Graves' six cases, all of which recovered, there were now on record thirty well authenticated cases; and of these sixteen had been operated on, and fourteen had not. If in any case an operation was decided upon, free incision was no doubt the best procedure. He would only operate, however, when the indications for surgical interference were clear.

The chairman, Dr. Page, in some remarks on the paper, referred to pulmonary abscess resulting from the presence of foreign bodies, and said that he had seen a case in which an abscess developed on account of the presence of a bullet which had entered the lung tissue twenty years before; the patient having been wounded in one of the battles during the late war. He was thought to have a cavity, and was troubled with cough and hæmorrhage. The case resulted fatally, and at the autopsy an abscess with the bullet in it was found. Reynolds related a similar case in an old Waterloo soldier, where the bullet remained in the lung forty years before the abscess developed.

Dr. Alfred L. Loomis said that the paper, with its three original cases, and its records of other cases, constituted a valuable contribution to the somewhat meagre literature of this subject. In his own experience simple abscess of the lung was very rare. He had, however, seen a very few cases which were regarded, and very properly, he thought, of this nature, and in one or two instances the diagnosis was proved by post-mortem examination. In all cases of abscess, so far as his knowledge went, the condition had been preceded by the signs of inflammation, more or less active; and he believed that such abscesses formed in lungs which had been previously the seat of fibrinous pneumonia followed by an increase of connective tissue. When subjected to a not very active chronic inflammation abscesses were liable to form in this tissue. Such abscesses he had also never met with except in alcoholic subjects. It was, in his opinion, very difficult to draw the line between circumscribed empyema in certain positions and abscess of the lung, and especially if such empyema broke into the bronchial tubes, so as to allow of the escape of pus. In any case of his own he should be very loath to pass a knife into the lung tissue, and he fancied that the necessity for such a procedure was very rare. As a rule, it diminished the chances of the patient's recovery, and it was better to leave the abscess to open spontaneously.

Before the Section adjourned Dr. Leszynsky exhibited a little girl 9 or 10 years of age in whom the internal use of arsenic, in the form of Fowler's solution, given for the relief of chorea, had produced very marked pigmentation over the entire surface of the body. There was no reason to suspect the presence of Addison's disease, he said, and the case seemed to him a most remarkable one. As to the prognosis, as regards the permanency of the pigmentation, he was unable to express any opinion. If the weak sisters who are now addicted to the use of the "arsenic wafers" so widely advertised for the complexion could once have the opportunity of inspecting this unfortunate patient, it is safe to say that all demand for such preparations in the community would instantaneously cease.

P. B. P.

Neglect of Clinical Teaching.

Dear Sir:—Allow me to make one remark on the question of bed-side teaching, with which you dealt so fully and so well in your editorial of the 9th inst. The difficulty lies entirely in the short three-session course. The students, teachers and patients are here, and there is no reason whatever why Philadelphia, New York, Boston, Baltimore, Chicago, St. Louis and Cincinnati should not have clinical teaching just as thorough, and just as systematic as is given to-day in Edinburgh, or on this continent, in Montreal. Large classes, in large cities with ample hospital facilities, can be perfectly well managed. The lack of a fourth year is the only obstacle. Yours truly,

WM. OSLER, M.D.

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BOOK REVIEWS.

DICTIONARY OF VOLAPÜK: Volapük-English; English-Volapük. By M. W. Wood, M.D., Captain and Assistant-Surgeon, United States Army, 8vo, pp. vi, 398. New York: Charles E. Sprague. London: Trübner & Co. 1889.

Volapük, it is said has obtained practical recognition among the speakers of twenty-one different tongues; the speakers of this new language are now numbered by hundreds of thousands, and some "natural" languages can claim no more. It seems not unlikely that Volapük will continue to grow in use for a few years; whether it will after a few years, be more, or less used, it is difficult to say. This may be said, however: no living language appears to present so many advantages for universal use, at present, as Volapük. The *plekels Volapüka*—devotees of Volapük, have been accused of wishing to have Volapük supersede living languages; such is not the case, however. The language is intended as a means of ready communication between persons not conversant with the mother-tongues of one another.

What figure will Volapük cut in the medical literature of the next few years? Some medical articles have been written in this language. At present, however, the medical terms are very few. Possibly in the near future some *sanelik Volapükan*—medical volapükist—will think out substitutes for such terms as hysterrrhaphy, staphylococcus pyogenes aureus, gastro-duodenitis, etc., and we are sure that our German confrères will hail with delight short substitutes for *Bauchspeicheldrüsenschwindsucht* and *Bauchspeicheldrüsenszwölffingerdarpulsader*, not to mention other words of similar length. In fact, the more simple Volapük term might, we suppose, be adopted for general use in the living language. There ap-

pear to be no special difficulties in learning to read Volapük, nor in acquiring the ability to speak it.

Professor Henry Cohn, Director of the Chicago School of Languages, informs us that this is the most complete and the most conveniently arranged dictionary of Volapük published in any language.

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Second Edition. Revised and Enlarged. Philadelphia: P. Blakiston, Son & Co. 1889.

The first edition of this valuable and convenient work has become well-known to the profession, and consequently needs no extended notice. In this second edition the author has added valuable matter regarding Blood Stains, Suffocation, Ptomaines and Malpractice, and revised the text generally. It is well adapted as a text-book for students of both law and medicine.

TRANSACTIONS OF THE THIRTY-EIGHTH ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY, held in Rock Island, May 15, 16, and 17, 1888. 8vo, pp. xii, 220. Chicago: Jameson & Morse Company.

We must first apologize to the Illinois State Medical Society for having allowed its volume of Transactions to be so long unnoticed in *THE JOURNAL*; the volume appeared in September.

A large portion of this volume is devoted to the reports of committees on the progress made in the various departments and branches of medicine during the year. May it not be said that the day, when such reports are useful or in any way necessary, is past? The custom of having these reports was inaugurated in the Illinois State Medical Society 38 years ago. "Then," as Dr. A. Reeves Jackson remarks in his report on gynecology, "a doctor could wait for his quarterly installment of literary food without feeling any lack of nutrition. . . . Then came the monthly. . . . But now the quarterlies are changing to monthlies, the monthlies to weeklies, and every physician is a subscriber. . . . So that these yearly reports, which may at the first have been a welcomed offering to those who had not always the opportunity of obtaining otherwise the facts which they might contain, have come to be less and less useful."

The volume closes with a volunteer paper by Dr. E. Fletcher Ingals on "Chronic Rheumatic Laryngitis or Chronic Rheumatic Sore Throat," which has been published elsewhere; one by Dr. J. W. Cowden, of Rock Island, on "The External Application of Sulphur in Sciatic Neuralgia," which has been published in *THE*

JOURNAL (Vol. xi, p. 13), and one by Dr. David Prince, of Jacksonville, on "The Possibilities of Volapük for a Universal Language in Relation to Medical Science."

THE YEAR-BOOK OF TREATMENT FOR 1889. Being a Critical Review of the Practice of Medicine and Surgery during 1888. 8vo, pp. viii, 344. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co.

In this book is furnished not only an account of the more important advances made in the treatment of disease, but also a review of these advances by competent authorities. The contributions include abstracts and excerpts from the medical literature of all countries for the year ending September 30, 1888. The list of editors includes some of the best-known men in the profession in England. The volume is very conveniently arranged, and the contents make it a most admirable book for any physician.

DEPARTMENT OF AGRICULTURE. Report of 1887. Swine-plague and Cholera critically considered. By FRANK S. BILLINGS, Director of the Patho-Biological Laboratory of the State University of Nebraska. Pamphlet, pp. 64. Lincoln, Neb. State Journal Company. 1889.

This is a "review" of Mr. D. E. Salmon's report on Swine-plague and Cholera, made to the Department of Agriculture in 1887. Dr. Billings says in his preface: "The absolute necessity of forcing this dispute to a final issue must be my excuse for this contribution." What the dispute is, we have failed to discover from the 64 pages of the pamphlet. It is absolutely painful to read anything written with so little dignity of style as this pamphlet, especially when it emanates from a member of the medical profession occupying a public position. The pamphlet is not argumentative; it is abusive, rhetorically involved, and unclear in diction and style. The author claims in his preface to be the devoted servant of his profession, the live stock interests of his country, and his race in all countries. With these masters to serve we think he could spend his time to better advantage than in writing pamphlets of this nature.

MISCELLANY.

MICHIGAN STATE MEDICAL SOCIETY, *Twenty-fourth Annual Meeting*, to be held at Kalamazoo, Michigan, May 9th and 10th, 1889. Much satisfaction is felt in announcing that the membership of the Society is rapidly growing, that added interest in its work is displayed from year to year, and that the regular attendance upon its meetings is constantly increasing. Its members, actuated

by a truly scientific spirit, are working together harmoniously to further the welfare of the Society. The division into Sections for the reading and discussion of papers has greatly facilitated its work. Ours is the first State Society to adopt this plan. Stenographers have been furnished each Section, and verbatim reports of discussions taken. The recent volumes of *Transactions* tell of the gratifying amount of work accomplished. A similar arrangement will be carried out at the next meeting. Mornings will be devoted to the general business meetings of the Society, afternoons to work in the Sections. In addition to the Annual Address of the President, others are promised from the Orators of Sections, as follows:

Upon Practice of Medicine.—Henry F. Lyster, M.D., Detroit. Subject: "The Influence of Mind in the Cure of Disease."

Upon Surgery.—Herman Keifer, M.D., Detroit. Subject: "Surgery within the last Fifty Years."

Upon Obstetrics and Gynecology.—E. W. Jenks, M.D., Detroit. Subject: "The Education of Girls from a Medical Standpoint."

Committees of the different Sections urgently desire that members further the work of the Society by contributing brief papers. Those presented must be fully completed, that the publication of the *Transactions* may not be retarded. Complete abstracts and titles should reach the Secretaries of the Sections not later than April 20th, to insure notice in the official programme.

Railroad certificates for reduced fare will be sent to all physicians, other than members, who desire them, on application to the Secretary.

The Headquarters of the Society will be at the Burdick House, Kalamazoo. All sessions of the Society will be held in the 1st Presbyterian Church, corner of Rose and South streets.

The officers of the Society earnestly solicit the coöperation of all members, to the end that the next meeting at Kalamazoo may prove the largest and most successful in the history of the Society.

Secretaries of Sections.—Practice of Medicine: H. B. Hemenway, M.D., 524 South Park St., Kalamazoo. Surgery: F. W. Mann, M.D., 250 West Fort St., Detroit. Obstetrics and Gynecology: C. Henri Leonard, M.D., 18 John R. St., Detroit.

To be elected to membership necessitates being present.

S. S. FRENCH, M.D., President,
Battle Creek.

GEO. DUFFIELD, M.D., Secretary,
25 Washington Ave., Detroit.

DR. PASCHAL MAXFIELD, the oldest physician in Vergennes, Vermont, died recently, aged 76. He was highly esteemed for his generous character, and held many important offices in the gift of the town and State. He was a graduate of Castleton Medical College.

AN AMERICAN HOSPITAL is one of the features of the City of Mexico. All English-speaking persons that apply are admitted. Regular contributors to the Hospital, who subscribe not less than \$1 monthly, and Americans without means of support, are entitled to attendance and medical treatment in the general ward, free of all charge. Other persons may enjoy the privileges of the Hospital on equitable terms, and private rooms are provided for such as desire them.

HISTORY OF THE MEDICAL PROFESSION IN CANADA.—The descendants of the early doctors of Upper Canada will be interested to learn that there is being prepared an historical account of those pioneer practitioners, by Dr. Canniff, of Toronto, the author of "The Settlement of Upper Canada." The work will give an account of the several steps in legislation to secure a proper standing of the profession from the establishment of the Province of Upper Canada up to about the year 1850; 2d, an account of the proceedings of the Upper Canada Medical Board; 3d, a list of the medical men during that period, with bi-

ographical sketches. Dr. Canniff requests veteran medical men to kindly furnish him at once with information on the following points: 1, birthplace and date; 2, place of medical study and the degrees; 3, time of arrival in Canada; 4, places where he practiced; 5, incidents in his professional life; 6, marriage, children, and death.

CHICAGO POLICLINIC.—Dr. W. A. D. Montgomery has been elected Professor of Diseases of Children; Dr. M. L. Harris, Professor of Surgery; and Dr. Henry Hooper, Professor of Gynecology.

MEDICAL GRADUATES.—Following are the numbers of graduates from schools that have recently closed the session of 1888-89: Baltimore Medical College, 21; Starling Medical College, 28; University of Nashville and Vanderbilt University, 98.

MEDICAL EDUCATION.—At the annual meeting of the Board of Trustees of the Central College of Physicians and Surgeons of Indianapolis, held March 1, 1889, the following resolution which had previously been passed by the stockholders and faculty, received the unanimous vote of the members:

"That after the session of 1890 and 1891, the Central College of Physicians and surgeons require of each student who is a candidate for graduation, evidence of four years' study of medicine, and the attendance of three courses of lectures."

THE ANNISTON CITY (ALA.) MEDICAL SOCIETY met and organized on February 23, with Dr. H. Mabbett as President, and Dr. Bowcock as Secretary.

PROPOSED HOSPITAL FOR INEBRIATES IN MASSACHUSETTS.—A bill has been introduced into the Massachusetts Legislature providing for the establishment of a hospital for inebriates. This indicates a new development of knowledge and experience in regard to the treatment of habitual drunkards. Dipsomania is now distinctly recognized as a disease. The patient may have been culpable in inducing it; but, when it is once acquired, it cannot be expelled without the proper treatment. This treatment must be based on sound medical and moral principles. The fact that dipsomania is a disease is already conceded in the laws of the State which provide for the commitment of such persons to the insane asylums. But experience has shown that, while the law is right in recognizing the disease, its disposition of the victim is not fortunate or adequate. A large amount of testimony can easily be gathered from superintendents of insane hospitals to show that such institutions are not proper places for the commitment of dipsomaniacs or habitual drunkards. At the end of a few weeks, when the paroxysm of inebriety has passed away, the patient is apparently well. He is at least no longer insane in any proper sense. It is not difficult to procure an early discharge; and the patient goes forth only to renew his debauch at the usual interval, and is perhaps recommitted to the asylum. What he really needs is to be treated, not for insanity, but for drunkenness. The methods of treatment are not identical. An habitual drunkard needs to be restrained long enough to establish the physiological changes necessary to a permanent cure. He needs also to be brought under the constant pressure of moral influences which shall develop and strengthen the power of self-control.

Nor is a prison any more than the insane asylum the proper place to commit habitual drunkards who are not criminals. The drunkard who commits a crime against society while under the influence of liquor becomes amenable to the criminal law. The drunkard who has not in other respects a bad repute, but yields to the dominion of this form of self-indulgence, belongs to a different class. In both cases the aim of society should

be the same—the reformation of the victim. But the proper classification may lead to a distinction between them. The time will come, we trust, when all prisons will be regarded as moral hospitals. But that time has not yet arrived. A prison is still popularly regarded as a place for the infliction of punishment. Incarceration carries with it the stigma of criminality. There are those who feel that the drunkard or the opium-eater, who is simply guilty of a sin against himself, should not be placed in prison with those who are guilty of sins against society. We do not think this reasoning should be pushed too far. We believe that every man who yields to self indulgence violates not merely his obligations to himself, but obligations to society and posterity. And it may be shown that the drunkard who bequeaths the terrible consequences of his indulgence to his children has done vastly more harm by his life in the world than the man who steals a few dollars from his neighbor and is branded as a thief.

It is not necessary here, however, to press points of casuistry. We simply urge that this matter be approached in a practical way. It is a simple fact that a large percentage of inebriates may be cured if placed under proper conditions. These facts are amply supported by the testimony of medical men and of experienced temperance workers. It is further reinforced by the statistics of the most successful private inebriate asylums. But such asylums are not available to many of the poor, nor can they command those conditions which may be provided by State Institutions. The difficulty in private institutions is that the patient wishes to decide for himself when his cure is completed. His judgment does not agree with the judgment of his physician, but the latter has no power to restrain him. The bill before the Massachusetts Legislature grants a power of restraint over the patient extending to 2 years. It provides for the commitment of the inebriate under proper legal form and on sufficient medical evidence. It also protects the inmate against the possibility of unjust detention; and, should it become a law, as we trust it may, those inebriates who are now sent to insane asylums and many that are sent to reformatories would be committed to its care. The bill has been carefully drawn by medical and legal experts, and Massachusetts now has an opportunity of trying an experiment which ought not to be longer delayed. Every step in the classification of disease and crime is a step in advance. The new institution, if established according to this bill, will not be a prison or an asylum—it will be a hospital. Here the patient may be surrounded by every needed influence, physical and moral, until he has outgrown the disease which has mastered him.—*St. Louis Globe-Democrat.*

LETTERS RECEIVED.

F. P. Allen, S. H. Gardner, J. H. Frey, University of Virginia; Orion K. Thompson, Greenburg, Ind.; A. G. Patton, Cherry Fork, O.; Dr. E. A. Christian, Pontiac, Mich.; Dr. Kent K. Wheelock, Fort Wayne, Ind.; Dr. C. A. Rogers, Bakersfield, Cal.; Dr. A. L. Hummel, Philadelphia; Dr. A. F. A. King, Dr. H. H. Barker, Washington, D. C.; Dr. John S. Lewis, Dnubque, Ia.; Newport Aluminum & Steel Co., Newport, Ky.; J. S. Winters, Louisville, Ky.; E. M. Thomas Mfg. Co., New York; Dr. H. T. Montgomery, South Bend, Ind.; J. C. Cochran, Burlington, Vt.; Dr. R. J. Dungleison, Philadelphia; Dr. M. J. Dudley, Sonoraville, Ga.; Dr. J. A. Irwin, Philadelphia, Pa.; Dr. D. DuPre, Dallas, Tex.; Dr. C. A. Freeman, Leland, Ill.; Jerome Kidder Mfg. Co., New York; Dr. C. H. Bradley, Haverhill, Mass.; W. A. Caldwell, Washington, D. C.; Reed & Carnrick, New York; Dr. Wm. C. Woodward, Washington, D. C.; Dr. F. E. Young, Canton, O.; Dr. A. A. Hoehling, U. S. Navy; W. S. Mobbutt, Louisville, Ky.; Henry Bernd & Co., St. Louis, Mo.; Dr. T. E. McArdle, Washington, D. C.; Dr. N. Senn, Milwaukee, Wis.; New York & Chicago Chem-

ical Co., New York; J. F. Widman, McGregor, Ia.; A. M. Eagon, New York; St. Hilde's School, Morristown, N. J.; Walters Bros., Des Moines, Ia.; S. A. Majure, High Hill, Miss.; Adda Dixon, Omaha, Neb.; W. A. Lee, Chicago, Ill.; Dr. J. S. Marshall, Green Spring, O.; Dr. J. W. Thompson, St. Paul, Minn.; Chicago Policlinic; Dr. H. A. Kelso, Paxton, Ill.; Dr. J. R. Kewley, Chicago; Cincinnati Polyclinic; Dr. H. Longstreet Taylor, Cincinnati; Dr. E. R. Smith, Toledo, Ia.; Dr. S. Solis-Cohen, Philadelphia; Dr. H. R. Storer, Newport, R. I.; Western Publishing House, Chicago; H. Weinhausen, New York; Thos. F. Goode, Buffalo Lithia Springs, Va.; Dr. J. Chris. Lange, Pittsburgh, Pa.; J. H. Johnson, Burghwash, N. S.; Dr. E. R. Fletcher, St. Paul, Neb.; Subscription News Co., Chicago; McIntire & Ashby, Baltimore, Md.; Dr. Sauerhering, New York; Dr. Geo. Duffield, Detroit, Mich.; Dr. Wm. Osler, Philadelphia; Dr. G. A. Ritchie, Manawa, Wis.; M. G. Conger, Cincinnati, O.; Medical Library Association, New Orleans, La.; Heap's Patent Earth Closet Co., Muskegon, Mich.; Dr. G. C. Smythe, Greencastle, Ind.; Eastman Dry Plate & Film Co., Rochester, N. Y.; O. W. McMichael, Buffalo, N. Y.; Dr. H. J. Wood, Brooklyn, N. Y.; Dr. G. F. Cook, Oxford, O.; Adams Nervine Asylum, Jamaica Plains, Mass.; Dr. Louis A. Kengle, San Francisco, Cal.; Dr. Benno Schwabe, Basle, Switzerland; Otto Maier, New York; V. J. Stearns, J. P. Olsen, R. I. Clayton, M. A. Cachot, San Francisco, Cal.; John A. Barrett Battery Co., Baltimore, Md.; Dr. J. H. Goss, Fort Lamar, Ga.; R. C. Boyle, Winnipeg, Man.; Ella Camp, Clarence, Ia.; J. H. Bates, New York; Health Restorative Co., New York; Woman's Medical College, Kingston, Canada; Dr. E. P. Brewer, Norwich, Conn.; E. B. Owens, Chicago; Dr. R. Harvey Reed, Mansfield, O.; Edmond Gros, San Francisco, Cal.; Dr. J. C. Reeve, Dayton, O.; Dr. G. A. Dixon, New York.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 9, 1889, to March 15, 1889.

By direction of the Secretary of War, Col. Jedediah H. Baxter, chief Medical Purveyor, will proceed to New York City on public business connected with the Medical Department, and on completion thereof return to his station in this city. Par. 18, S. O. 57, A. G. O., Washington, March 11, 1889.

Major Charles R. Greenleaf, Surgeon U. S. Army, is appointed member of board to meet in this city on March 11, 1889, for the purpose of revising the blank forms, now in use in the Army, and preparing the "Book of Forms" for issue. Par. 13, S. O. 55, A. G. O., Washington, March 8, 1889.

By direction of the Secretary of War, Capt. Richard W. Johnson, Asst. Surgeon, is relieved from duty at San Carlos, Ariz., and will report in person to the commanding officer, Whipple Bks., Ariz., for duty at that station. Par. 15, S. O. 57, A. G. O., Washington, March 11, 1889.

By direction of the Secretary of War, Capt. Robert W. Shufeldt, Asst. Surgeon, having been found incapacitated for active service by an Army Retiring Board, is granted leave of absence until further orders on account of disability. Par. 7, S. O. 56, A. G. O., Washington, March 9, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 16, 1889.

Asst. Surgeon Frederick A. Hiesler, detached from Naval Hospital, New York, and ordered for examination preliminary to promotion.

Asst. Surgeon Frederick N. Ogden, ordered to receiving ship "St. Louis," Navy Yard, League Island.

Asst. Surgeon Patrick H. Bryant, detached from receiving ship "St. Louis" and to the Naval Hospital, Chelsea, Mass.

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ORIGINAL ARTICLES.

THE TREATMENT OF GLYCOSURIA.

Read before the Chicago Medical Society, March 18, 1889.

BY CHARLES W. PURDY, M.D.,
OF CHICAGO, ILL.

It is customary to consider glycosuria under two forms: *First*.—A milder manifestation of the disease in which only small amounts of sugar appear in the urine, and these often intermittently; while the general health of the patient suffers little or no disturbance. *Second*.—A more severe type of the disease characterized by excessively saccharine urine, great thirst, polyuria, emaciation, etc., leading more or less rapidly to extreme marasmus and death. The first form is chiefly of reflex origin, and hence its milder type and rarely fatal termination; while the second form is doubtless of central origin, and consequently more pronounced and serious in its consequences. In a systematic consideration of the management of glycosuria it is important that these two types of the malady be constantly kept in mind.

Physiological chemistry has shown us that glycosuria expresses itself chiefly through disturbance of the glycogenic function of the liver. Claude Bernard extended our knowledge a step farther, and showed that the elemental cause consists of some disturbance of the central nervous system, closely corresponding to the vasomotor centre. All attempts, however, to unravel the nature of this disturbance through the aid of morbid anatomy have proved thus far entirely futile. It is well to remember, however, that in careful scientific research, failure often teaches us valuable lessons, and, indeed, often furnishes useful information. The very fact that the study of morbid anatomy in glycosuria has failed to reveal uniform and tangible lesions of the central nervous system goes far to form a presumption that if lesions exist in these cases they can scarcely be sufficiently grave in themselves to cause fatal results. Our present knowledge of the nature and course of glycosuria is quite in harmony with this presumption; for indeed we find the cause of death uniformly to depend upon the perverted function of organs widely apart from the brain.

Moreover, if the perverted function of these organs can be corrected and held under control the patient may survive almost indefinitely.

Without entering into the discussion of the many theoretical questions with which, unfortunately, our knowledge of glycosuria is at present so deeply involved, let us more practically inquire, What facts have we at command upon which to base a rational system of managing the disease? We know that the chief expression of glycosuria is a perverted elaboration of the hydrocarbon foods in the liver, resulting in their conversion into grape-sugar. We know that the surcharging of the blood with large quantities of this sugar, not only gravely alters the nutritive qualities of the blood; but it is also liable to induce chemico-toxic changes in that fluid, which are dangerous to life. We know, in short, that the perverted elaboration of so large a proportion of the food supply as that of the hydrocarbonaceous, the saturation of the tissues with the resulting morbid products, and the necessary efforts at their elimination, lead to altered nutrition, emaciation, wasting of the vital forces of the economy, secondary disease of important organs; and to that complex of morbid processes that in glycosuria bring about exhaustion and death. Now, obviously, if we can succeed in cutting off completely the supply of such foods as are prone to faulty elaboration—for the most part the hydrocarbons—we shall not only arrest the perverted liver function; but we shall also save the system from the damaging effects of the morbid products poured into it through faulty elaboration of food, and thus practically arrest the regressive changes that lead to such grave results.

If we had to deal only with the purely hydrocarbon foods as the exclusive source of sugar production in the economy, our problem would be a comparatively simple one; since a thoroughly nourishing and sustaining diet can be furnished exclusive of these. But while the hydrocarbons are the chief, they are not always the only source of sugar production. Experimental investigation has shown that when animals were fed on purely nitrogenous foods—even for lengthy periods of time—a small amount of glycogen still continued to be present in their livers. In the most grave forms of diabetes, the "sugar-forming vice" of the organism

becomes so strong that the liver seems capable of splitting up a portion of the nitrogenous foods, and even of the albumenoids of the tissues, and of transforming a part of these into sugar. Fortunately such cases are for the most part long-neglected or advanced ones. Although much may be accomplished even here in retarding the disease, yet it may, as a rule, be considered progressive towards a fatal termination.

The sugar-forming powers of the organism in glycosuria are feeblest in their operation upon nitrogenous materials; indeed in the early stages of the disease it is probable that these always escape sugar transformation. Next in order come the green parts of certain vegetables, which very strongly resist sugar transformation. The hydrocarbons offer the least resisting power of all foods to sugar transformation, and of this class starch is the most dangerous element.

Practically then the more completely we are able to eliminate the hydrocarbons from the food supply in glycosuria, the more completely will we be able to bring and to hold the disease under control. Certain allowances must be made for individual idiosyncrasies, as well as for a few exceptional articles of diet, which experience has shown us are sometimes well borne—even when their classification would seem to contraindicate their use. To speak more accurately then, the more completely we are able to supply the system with that which it can appropriate as nourishment, and at the same time the more completely we can eliminate that which is convertible into sugar the more successful will be the treatment. Now, in view of the above facts, which I have endeavored to present as carefully separated from theoretical speculations as possible, it seems indeed strange that more earnest efforts are not made in the management of glycosuria—especially in the more pronounced types of the disease—to supply more nearly that diet upon which almost alone depends the improvement or cure of these cases. I shall first point out what seem to me the more prominent errors commonly made in dieting in the severe type of the disease, giving a list of the admissible foods; after which I shall note some of the liberties of diet that may be indulged in the milder reflex forms; and lastly, I shall refer to the influence of drugs over the disease.

First in importance comes the question of bread, some form of which containing starch is permitted in all the diet lists I have seen. Now I do not hesitate to state, without fear of successful contradiction, that all the so-called diabetic flours, breads, and cakes in the market of which I have any knowledge, are loaded with hydrocarbons. They are "a snare and a delusion," and have unquestionably shortened the lives of thousands. Most samples of gluten flour, from which the starch is claimed to have been eliminated—or nearly so—contain from 20

to 40 per cent. of starch. I saw in Dr. Pavy's laboratory in London a few months since an analysis of one of the so-called diabetic flours on sale in our markets, which showed the starch contents to be nearly 60 per cent. Long before I became aware of these facts I found that I could not control typical cases of diabetes if I permitted the use of commercial flours so-called "diabetic." I need scarcely add that with the above figures before me I have discarded them altogether.

The withdrawal of bread from the diet usually constitutes the most serious deprivation the diabetic patient has to encounter, although the appetite for bread is more largely a matter of taste and habit than of necessity. Some patients become quite reconciled to the change after a few weeks and do not mind it, but usually the craving for bread of some kind remains more or less strong, and will not be supplanted by the use of other foods. In the latter class of cases, if strict dieting be demanded, I permit the moderate use of bread made from almond flour as first practiced, I believe, by Dr. Pavy. The almond is absolutely free from starch, but contains about 6 per cent. of sugar. The latter may be eliminated by boiling the meal in acidulated water for an hour or so and then straining it. The almond meal is not on sale in the markets; the large percentage of its contained oil (50 per cent.) renders it unfit for keeping sufficiently long for commercial purposes. In my own practice I direct the meal to be made as required by means of mills especially constructed for the purpose. Almond flour, when beaten up with eggs, may be raised with the aid of a little baking powder, and baked in small tins in an oven, and the resulting bread is relished by most of my patients as equally palatable with ordinary bread. It should be borne in mind that almond bread, as indeed all substitutes for common bread, should be used in moderation; otherwise patients deprived of other luxuries of food fly to the permitted bread with an avidity seemingly born of the thought that it is indeed the "staff of life" instead of merely a substitute therefor. To make a substituted article of diet go further than the original one is more than is to be expected, even in these practical days, and yet I am led to believe that the failure in accomplishing this in the case of almond bread has led to its unjust condemnation by some in these cases.

The next question of importance in diet—and one upon which authorities greatly differ, is the propriety of the use of milk in diabetes. Dr. Donkin, perhaps the most enthusiastic advocate in its favor, published a book in 1871, which was devoted to the exclusive use of milk as a means of treating this disease. In England Dr. Donkin's so-called "milk cure" has met with few if any weighty supporters; on the contrary, many advocate the total exclusion of milk from the diet. My own experience in the use of milk in

the treatment of diabetes began nine years ago since which time I have made thorough and varied trials of it, both as an exclusive and as an adjunct diet. My conclusions are that milk is successful chiefly—perhaps only—in milder forms of the disease, such as I have termed reflex cases. Such cases are, as a rule, controllable by moderate limitations of diet, which offer greater range and nutritive power than does milk. In the more severe type of the disease I have repeatedly found when the diet was rigidly restricted, save in the use of milk, that the total exclusion of the latter without other change caused a prompt reduction, and often the disappearance of sugar from the urine.

Milk contains a very considerable amount of sugar (lactine), about half an ounce to each pint, and Dr. Pavy observes that this animal hydrocarbon "comports itself in the intestinal canal precisely as does grape-sugar." There can be little doubt, therefore, that in the more pronounced type of diabetes requiring a strict diet, milk should be excluded from the list.

There is a form of glycosuria that occurs in obese and over-nourished subjects, in which the amount of sugar in the urine is usually small, and probably largely due to the ingestion of more hydrocarbons than the system is able to appropriate. Such cases are benefited, and indeed often cured, by a course of fasting. The "milk cure" consisting of the exclusive use of skimmed milk is likely to benefit such cases because it is, in fact, a system of starving.

Skimmed milk alone is not sufficient to long maintain proper nourishment to the organism. In pronounced diabetes of central origin, where the assimilative powers of the system are weakened, and more or less emaciation has already set in, it would, therefore, seem absolute folly to confine the patient to skimmed milk, for under such circumstances death from inanition must be but a question of a short time. Sir Wm. Roberts records three cases which he subjected to the "milk cure" with the result that they all succumbed in a short time. My own experience is similar to Dr. Roberts', save that I ceased to use it as an exclusive diet after seeing my first patient rapidly sink under its employment. It is important to bear in mind that lactine is confined to the whey, and consequently the other derivatives of milk—as cheese, cream, curds and butter—are unobjectionable.

Another food of animal source contraindicated in diabetes is liver. The liver of animals contains considerable sugar, as might be expected, considering the glycogenic function of that organ. Not only should the liver of quadrupeds be avoided, but certain fish, especially oysters and the interior of crabs and lobsters, since they possess proportionately very large livers. It has been claimed that this precaution is more in keeping with theory than practice, but a sufficient answer is fur-

nished in the fact that analyses of oysters have shown as high a range as 10 per cent. of sugar.

The very wide distribution of starch and sugar throughout the vegetable kingdom renders our selection of food from this source limited indeed. In strict dieting we are obliged to avoid nearly the whole list of table vegetables. One class only are we at all safe in drawing upon—greens—and these with caution. Green vegetables fortunately consist mostly of cellulose and contain little, sometimes no starch or sugar. They are rendered still safer if boiled before being eaten; the hot water further ensuring the absence of starch and sugar.

The starch and sugar composition of vegetables varies somewhat. This variation depends much upon the degree of cultivation, and the nature of the climate and soil in which they are produced. As a rule, a high degree of domestic cultivation favors an increase of starch and sugar, while high temperature and sunny skies have an opposite tendency. Among the least objectionable vegetables may be mentioned spinach, lettuce, olives, cucumbers, mushrooms, Brussels sprouts, turnip tops, water-cresses, cabbage, cauliflower, and the green ends of asparagus. Nearly all nuts are unobjectionable, chestnuts forming an exception.

In the matter of beverages the diabetic patient will scarcely encounter very serious restrictions, since the range permitted includes most of those in domestic use, including many which fall within the line of luxuries. Among these may be mentioned tea, coffee, all mineral waters, pure spirits, as brandy, whisky, gin, and such wines as claret, Rhine wine and Burgundy.

Having briefly reviewed the food products applicable in glycosuria, I shall now enumerate the list I employ in dieting patients upon strict principles, as appropriate in the more severe type of true diabetes of central origin.

STRICT DIABETIC DIET.

Meats of all kinds except livers; beef roasted, broiled, dried, smoked, cured, potted, or preserved in any way except with honey, sugar, or prohibited vegetables. Mutton, ham, tongue, bacon, sausages. Poultry and game of all kinds. Soups made from meats, without flour or prohibited vegetables. Eggs, butter, cheese, pure cream, curds, oil, gelatine and unsweetened jellies. Fish of all kinds except oysters and the inner parts of crabs and lobsters. Bread, biscuits, and cakes made from almond flour. Spinach, lettuce, olives, cucumbers, mushrooms, water-cresses, green cabbage. Almonds, walnuts, Brazil nuts, filberts, butternuts, cocoanuts. Salt, vinegar and pepper.

Drinks, tea and coffee, mineral waters, whisky, gin and brandy, in moderation. Claret and Rhine wine.

In mild forms of glycosuria some additions may be safely made to the above diet, and often with advantage. Since in such cases the sugar-forming

powers of the organism are weaker ; or, in other words, the assimilative powers for sugar and starch are greater, it is only necessary to limit, *not to curtail* the hydrocarbons. It seems necessary, therefore, to have at hand to draw upon a supplementary list of foods, which contain but limited amounts of these agents. The selection from the supplementary list should always be made with care ; indeed, it should be almost as much a matter of experiment as rule, since we encounter wide differences in individual cases. Thus levulose—fruit sugar—is often well assimilated in the milder form of the disease, and this permits the inclusion of certain fruits in the supplementary list.

SUPPLEMENTARY DIET.

Cabbage, celery, radishes, cauliflower, green string beans, coldslaw, kraut, young onions, tomatoes, cranberries, apples if not sweet, milk in moderate quantities, and bran bread or gluten bread well toasted.

The discovery of saccharin has furnished us an admirable substitute for sugar, since this agent possesses a sweetening power nearly 300 times greater than that of sugar, and a flavor quite as agreeable and pleasant. The tablet form in which saccharin is now put up is very convenient for sweetening coffee, tea, and other beverages. Constant use of saccharin in practice for over a year has convinced me that it is entirely harmless in these cases.

The method of dieting diabetic patients is of scarcely less importance than the quality of the diet itself. In order to more accurately determine the effects of diet upon the disease, no so-called specific medicines should be administered until the sugar excretion is reduced as far as is possible by diet alone. Step by step the more objectionable foods should be cut off until sugar ceases to appear in the urine, or until we reach almost—indeed in some cases an absolute—animal diet. Of course, where patients have been enjoying all the luxuries of a diet range comprising our modern resources of food-supply and culinary arts, an abrupt change to a strict diabetic diet would carry with it more or less danger, and therefore such course is never advisable. *The first step* should consist in the exclusion of potatoes, sugar, and farinaceous foods, except leaving the patient the liberty of using a moderate amount of bread thinly cut and well toasted on both sides. With these restrictions the patient should continue without other changes for about two weeks. In the milder cases this "first step" in dieting will have caused a reduction of the sugar in the urine to relatively small proportions ; indeed, in some cases it completely vanishes. If sugar still appears in the urine—especially if in considerable quantities—under the above restrictions, we may know that the disease is at least of moderately severe type, and we should proceed to the next step in the diet.

This should consist in the exclusion of milk, and all vegetables save green ones. Greater care should be exercised in the use of bread ; white bread should be forbidden, and some substitute employed that contains less starch. Gluten or bran bread may be tried, but always toasted, as this alters its contained starch, so that it is not so readily converted into sugar.

After two weeks' adherence to the above restrictions, if sugar still appears in the urine beyond mere traces, we may be sure that we have to deal with the disease in its more severe type, and we must accordingly bring to bear against it all our resources of diet in the most strict form. Everything containing starch or sugar that can be avoided, should be strictly forbidden. This last step should be entered upon rather more gradually than the others. Milk, if previously permitted, should now be replaced by pure cream. Cabbage, celery, radishes and string beans should be exchanged for spinach, lettuce, water-cresses, olives and cucumbers. Lastly, apples, tomatoes and all fruits should be avoided, and, with the exception of almond bread, some nuts and a few greens, the patient is reduced to an animal diet. Upon these restrictions, properly carried out, we shall find a large proportion of diabetic patients cease to excrete sugar with their urine, and with this result nearly all the symptoms of the disease will disappear.

In exceptional cases, even after a fair trial of the above restrictions sugar still appears in the urine, but it rarely exceeds 1 per cent. Under such circumstances the patient should be placed upon an absolutely animal diet, at least for a time. It will be found that a strictly animal diet will often remove these last traces of sugar from the urine, and after its continuance for a longer or shorter time, a reversion to some of the less objectionable articles of the vegetable order causes no reappearance of sugar in the urine.

In accustoming the patient to the more strict form of diet, care should be exercised not to permit the stomach to be overloaded. The beneficial effects of temperate eating in glycosuria were very prominently illustrated during the siege of Paris, as Bouchard observed that sugar entirely disappeared from the urine of diabetics in whom up to that time it had persisted, even though they had been living on a carefully regulated diet. The diminution in the quantity of food, occasioned by its great scarcity during the siege, effected that which alteration in quality had failed to accomplish.

The more slowly food is submitted to the digestive forces, the more completely is it likely to become assimilated. Light meals frequently repeated is the better rule to follow, at least until the patient becomes accustomed to the change. It is important also that the diet be varied as greatly from day to day as the range of food in the list will permit.

I have repeatedly placed diabetic patients that were considerably under 20 years of age upon the strict lines of diet herein indicated, with the result of completely eliminating the sugar from the urine for weeks and months together, and without resort to medication. Thus it may be seen how much may be expected from proper dieting, even in cases that we are forced to consider as ultimately hopeless ones.

By way of illustration—a year ago this month a lad of 18 years came to me from a distant State with a history of diabetes of over a year's standing. His symptoms, as is usual in such cases, were great thirst, morbid appetite, polyuria, and advancing emaciation, with a very considerable amount of sugar in his urine. His physician at home had put him upon a diet scarcely so limited as the "first step" laid down in this paper, and but a slight check was put upon the disease. I gradually restricted his food allowance until it conformed to the strict diabetic diet already laid down. His thirst gradually subsided, the quantity of urine diminished, and at the end of six weeks no trace of sugar was to be found in his urine, and he began to regain his lost weight. Under a continuance of this course the urine remained normal in quantity and free from sugar for about three months, when he returned to his home with directions to follow as closely as possible the course that had so greatly benefited him. This case may be fairly ranked among the most unpromising ones, chiefly on account of the patient's age; for it is a rare exception to meet with a case under 20 years of age in which the disease does not rapidly prove fatal unless the patient be very strictly dieted.

It may be said of glycosuria in general that its severity is usually in inverse ratio to the age of the patient. The youngest diabetic I have seen came under my care a short time since, in the person of a little boy 3 years and 2 months old. In this case the polyuria was so pronounced that a nurse had to be provided to attend him at night, as he "wet the bed" from six to eight or more times each night. It may be of interest to note that he was put upon an animal diet, including milk, which soon lessened his polyuria so that the patient did not urinate during the whole night. I believe milk is more easily assimilated by children than by adults; at any rate it seems to agree better with them in these cases; and this is very fortunate, since we are almost driven to its use in diabetes of tender age. As a rule, in patients under middle age, we shall be obliged to bring to bear against glycosuria all our resources of dieting in the more strict form. I have met with an exception to this rule in the case of a Jewess, 29 years of age, in whom moderate restrictions of diet have kept the urine practically free from sugar for the past year and a half, only exceptional traces having appeared

occasionally. It has been remarked by several observers that diabetes is frequent among Hebrews, and that in them the disease is always of mild form. My own experience tends to confirm the latter statement. I have, indeed, at the present time, three cases in Hebrew women under treatment, and they are all of mild form.

For the most part the milder forms of glycosuria are met with in people that have passed the age of 40 or 50 years. In this class of cases our resources against the disease are always more effective; indeed, one or two years careful dieting not infrequently leads to permanent cure.

It remains, to speak of the medicinal treatment of glycosuria, and I may as well state frankly at the beginning that I have little faith in the curative power of medication over the disease, while on the contrary I am satisfied that the use of drugs in these cases is often productive of harm. My conclusions upon this point have been reached through separating the dietetic from the medicinal treatment, and then comparing the results of each. When a system of diet and medication are employed together from the beginning, the benefits accruing from diet may be attributed to the medicines, while the unfavorable influence of medication may be attributed to the disease. Our faith has become so supreme in the efficiency of medication in these days, that we are apt both to permit ourselves to be misled in its favor, and to overlook its possible injurious effects.

Of the various drugs that have been recommended in glycosuria, opium, perhaps, maintains its reputation best and has become the most popular. Opium undoubtedly tends to restrain the excretion of sugar in these cases, but the doses necessary to accomplish this result are so large that the drug is likely to induce constipation and impaired digestion, and thus any good accomplished through its use is more than counterbalanced by resulting evil. I have recently gone over this ground very carefully in a series of trials systematically conducted. Three cases were selected, in each of which the sugar excretion had been reduced by strict diet to about 1 per cent. They were all typical cases of true diabetes of central origin; and no little pains had been expended in reducing the sugar to so small a percentage, and maintaining a good general condition with excellent digestion and assimilation. Under gradually increasing doses of opium the sugar excretion was reduced somewhat in all the cases, but sooner or later constipation, loss of appetite, or nervous disturbances compelled the discontinuance of the drug without exception. This has always been my experience in the use of opium in glycosuria; nor have I found any material advantage in the use of morphia, its bimeconate, or the use of codeine. They all comport themselves much the same as does opium when used in equal physiological doses.

Ergot is probably the next most popular drug employed in the treatment of glycosuria. In the necessarily large doses required to effect the disease it is unsuitable for lengthy periods of administration. Its controlling power over glycosuria is very feeble and uncertain, and on the whole it may be regarded as unworthy of much confidence.

Bromide of arsenic and syzygium jambolanum have recently been highly lauded in the treatment of glycosuria. I have known the former to be administered in the largest doses (25 drops Gilliford's solution), during which time the patient continued to excrete urine that contained 30 grains of sugar to the ounce. Upon withdrawing the bromide of arsenic and placing the patient upon a restricted diet, I had the satisfaction of seeing the sugar speedily reduced to 2½ grains to the ounce. I have administered jambul to a number of my patients, but without noticing any favorable change that I could fairly ascribe to its use. A number of other drugs have been more or less highly extolled for their alleged specific influence over glycosuria. Among these may be mentioned iodoform, bromide of potassium, iodide of potassium, arsenic, sodium phosphate, nitrate of uranium, salicylic acid, picric acid and Calabar bean. There does not, however, appear to be sufficient evidence in favor of any one of these to entitle it to any degree of confidence. Carefully discriminated from the benefits derivable from dieting, these drugs are probably nearly inert so far as their influence over glycosuria is concerned.

The legitimate field of therapeutics in glycosuria becomes practically narrowed down to the treatment of its accompanying symptoms, and upon this point but few words will be here added. It has already been stated that disordered digestion is so frequent in glycosuria as to constitute it an accompanying rule. Indeed, many of the milder cases owe their origin without doubt to this cause. The digestive and assimilative functions should therefore receive especial support through such agents as experience has taught us prove the most efficient. Among these may be mentioned, pepsin and the vegetable bitters—and especially strychnia. The latter I have come to regard with increasing favor.

Constipation, so frequent an accompaniment of glycosuria, should be especially guarded against, as this condition reacts very markedly in enfeebling the digestive and assimilative powers. I have an especial preference for the natural alkaline purgative waters to meet such requirements, since they relieve the over-acid condition of the intestinal canal so common to the disease. Friedrichshall or Sprudel—or the salt made by the evaporation of the latter—given before breakfast, in hot water, seem especially appropriate. In middle-aged people inclined to stoutness and over-eating, a course of purgation by either of these agents often proves highly beneficial.

The various nervous disturbances accompanying glycosuria are, on the whole, perhaps best met by the use of bromides—especially that of sodium or lithium. It is not uncommon to meet cases of glycosuria complicated by anæmia. When pronounced, this condition is frequently attended by œdema of the extremities, and under such circumstances the liberal use of iron and arsenic is attended by excellent results. The appearance of multiple boils is not uncommon in glycosuric patients; a complication generally considered ominous of approaching danger. I have seen a disappearance of this complication in two weeks under the use of quinine—8 to 10 grs. daily—after having resisted other measures for nearly three months.

The most dangerous, and certainly the most rapidly fatal, of all the complications of glycosuria is that of Kussmaul's coma—sometimes called acetonaemia. Since the treatment of this complication has thus far proved so unsatisfactory, a knowledge of the conditions commonly leading thereto should be borne in mind, in order to guard the patient against it. Constipation, mental emotion, and fatigue seem especially to predispose to this complication, while a highly acid state of the urine often precedes it. I have repeatedly, in these cases, observed sudden death by coma to constitute the penalty of a hunting expedition, or long railway journey entailing unusual fatigue. If the early indications of approaching coma are observed, stimulants and hot baths should be resorted to without delay. It is believed that diabetic coma is brought about by some toxic agent in the blood, perhaps derived from alcoholic fermentation of glucose. Whether this be acetone, or some other agent, we are warranted by certain facts in believing that it is of an acid nature and, therefore, large doses of alkalies seem the most appropriate remedies to employ. An ounce of tartrate or citrate of soda dissolved in a pint of water may be given three or four times a day. The intravenous injection of sodium carbonate, with chloride of sodium, is strongly advised if coma has already become established. Under the latter circumstances, however, recovery is extremely rare under any form of treatment. On the whole, then, promising results are only to be expected by attempts at warding off the attack through such measures as have already been suggested.

In concluding what has been intended as a practical review of the management of glycosuria, it seems desirable to emphasize the immense importance of careful dieting as greatly outweighing all our other resources combined. This fact should be strongly impressed upon the patient from the beginning. He should be taught to rely little upon medication, and the most effective means of doing this is to show him how much can be accomplished by careful dieting alone. When he

has once learned through experience that the amount of sugar in his urine always bears a direct ratio to the prohibited foods indulged in, he is less likely to overstep the proper limits imposed. With his thirst, polyuria, and other discomforts relieved—a sure sequence of careful conformance to the rules—unless he be greatly lacking in intelligence and gratitude, he will cheerfully submit to the conditions imposed, since he will see and feel how greatly he is indebted to them.

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AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

FOURTH PAPER.—PREVALENCE.

Pneumonic fever "is one of the severest, most common, and in cold and temperate climates, is productive of more deaths than any other acute disease,"¹ and "is, next to phthisis, the greatest enemy of mankind."

The prevalence of a disease may be studied in various ways, *c. g.*, by considering; α . the annual mortality in relation (1) to the population, (2) to the deaths from all causes and (3) to the deaths from certain specified causes, and β . by comparing the annual mortality to (1) the population, (2) to that from all causes and (3) to that from specified causes.

Pneumonic fever is responsible for an annual mortality of 1.27 per 1000 of population. This estimate differs somewhat from those arrived at by Sanders,³ 1.38; Hirsch,⁴ 1.49; Ziemssen,⁵ 1.53, and Osterlen,⁶ 1.85. Inasmuch, however, as the magnitude of the figures with which I deal is much greater than that of either of these statisticians and are derived from a wider field, I am persuaded that my results approach nearest the truth. It is also the cause of 7.1 per cent. of all deaths. Sanders' estimate is 5.9 per cent., Juergensen's⁷ 6.6 per cent., and Paton's⁸ 17 per cent!

The following table shows the material from which my estimate has been derived. The magnitude of the numbers employed, the wide distribution of the points of observation, and the number of years embraced in the calculation will go far towards eliminating those errors incidental to all statistical inquiries.

TABLE III.—SHOWING PREVALENCE OF PNEUMONIC FEVER.

LOCALITY.	Years.	Population.	Deaths. All Causes.	Pneumonic Fever.	Per cent. All Causes.	Per 1,000.
Alabama ¹	1	1,262,505	17,919	1,748	9.7	1.38
Africa ²					9.1	3.62
Algiers ³	6					2.10
America ⁴						1.20
Antilles ⁵	20					1.30
Arizona ⁶	1	40,440	201	30	16.3	.75
Arkansas ⁷	1	862,525	14,812	1,952	13.2	2.43
Asia ⁸						1.47
Atlantic Steamers ⁹	4		412	47	11.6	
Australia ¹⁰						.72
Austro-Hungary						2.42
Baltimore ¹¹	20	417,000	15,722	1,028	6.5	1.13
Bavaria ¹²	5					2.20
Belfast	6					.44
Belgium ¹³	3					.85
Belleville, Ont. ¹⁴	3	9,742	537	20	3.7	.63
Bengal ¹⁵	14					1.40
Berlin ¹⁶	52					1.21
Bermuda ¹⁷	10					.60
Bombay ¹⁸	3					.40
Boston	42		7,905	321	5.3	1.23
Brantford, Ont. ¹⁹	3	11,833	484	44	9.0	1.27
Breslau ²⁰	2					1.20
British Army ²¹	10					.86
Brooklyn ²²	1	500,000	11,611	888	8.0	1.71
California ²³	1	864,694	6,366	641	10.0	.74
Canada ²⁴	20					1.32
Cape Colony ²⁵	19					.70
Cape Town ²⁶	10					1.60
Central America ²⁷	20					1.82
Ceylon ²⁸	20					.70
Charleston ²⁹	5	49,954	1,768	65	3.0	1.30
Chicago ³⁰	2	400,000	15,024	870	5.8	1.69
Christiana ³¹	1	75,000		116		1.54
Cincinnati ³²	20	230,000	104,752	7,093	6.7	1.54
Cleveland ³³	2	160,000	7,366	421	5.7	1.41
Colorado ³⁴	1	194,237	2,078	373	18.0	.92
Connecticut ³⁵	10	622,700	106,883	7,177	6.6	1.15
Copenhagen ³⁶	32					1.71
Cork ³⁷	9					.46
Cuba ³⁸						1.40
Dakota ³⁹	1	135,177	1,364	110	8.4	.81
Delaware ⁴⁰	1	164,130	1,302	87	6.6	.83
Denmark ⁴¹						1.57
Denver ⁴²	1	35,629	469	67	14.3	1.85
Dist. of Columbia ⁴³	3	177,624	11,470	1,091	9.0	2.05
Dresden ⁴⁴	10					.40
Dublin ⁴⁵	9					.81
Edinburgh ⁴⁶	3					1.42
England ⁴⁷	11					1.25
Europe ⁴⁸						1.57
Florida ⁴⁹	1	269,493	3,159	209	6.6	.74
Faroe Islands ⁵⁰						.71
France ⁵¹						1.99
French Army ⁵²	18					3.9
Georgia ⁵³	1	1,542,180	21,548	1,685	7.8	1.09
German Army ⁵⁴	9					12.3
Germany ⁵⁵						1.34
German-Siam Garrison ⁵⁶	26		314	24	7.6	.40
Guelph ⁵⁷	3	10,190	474	21	4.3	.63
Geneva ⁵⁸	8					1.30
Ghent ⁵⁹	4					1.21
Gibraltar ⁶⁰	10					.70
Halle ⁶¹	16					2.29
Hamburg ⁶²	19	180,000	6,661	321	3.3	1.50
Hamilton ⁶³	3	30,216	2,228	122	5.4	1.13
Hartford ⁶⁴	6	45,000	6,019	449	7.5	1.66
Iceland ⁶⁵						.79
Idaho ⁶⁶	1	32,610	323	35	10.8	1.09
Illinois ⁶⁷	2	2,572,000	58,478	5,618	9.6	1.48
Indiana ⁶⁸	4		74,031	6,092	9.0	1.60
Ionian Islands ⁶⁹	10					.60
Iowa ⁷⁰	1	1,624,600	19,377	1,615	8.1	1.60
Ireland ⁷¹	9					.27
Italy ⁷²						1.85
Jamaica ⁷³	20					.30
Kansas ⁷⁴	1	606,000	15,160	1,447	9.0	1.60
Kentucky ⁷⁵	1	1,618,932	20,930	1,671	8.0	1.09
Kingston ⁷⁶	3	15,297	924	40	4.3	.87
Knoxville ⁷⁷	1	6,000	168	16	9.0	1.55
Leith ⁷⁸	3					1.50
Limerick ⁷⁹	9					.60
London ⁸⁰	17					9.169
London, Ont. ⁸¹	3	20,970	998	70	6.2	.00
Louisiana ⁸²	1	723,886	8,908	1,132	12.7	.59
Madras ⁸³	10					.70
Maine ⁸⁴	1	648,936	9,523	798	8.3	1.68
Malta ⁸⁵	13					.50
Maremmen ⁸⁶						5.80
Maryland ⁸⁷	1	662,630	8,751	681	68.0	1.13
Massachusetts ⁸⁸	24	1,123,425	122,402	8,106	6.0	1.35
Memphis ⁸⁹	1					2.50

¹ Laennec, *Traité de l'Auscultation Mediate*. Paris, 1819.

² Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap. Leipzig, 1877, Bd. v. S. 12.

³ Am. Jour. Med. Sci., July, 1882, p. 83.

⁴ Handb. d. Geog. n. Hist. Path., Erlangen, 1864, Bd. ii S. 21.

⁵ Präger Vierteljahrschr., 1858, S. 11.

⁶ Handb. d. Med. Statistik, Tübingen, 1874, S. 377 u. 366.

⁷ Op. cit., p. 83.

⁸ Ziemssen's Handb., Bd. v. S. 12.

⁹ Am. Jour. Med. Sci., Oct., 1876, p. 375.

TABLE III—CONCLUDED.

LOCALITY.	Years.	Population.	Deaths. All Causes.	Pneumonic Fever.	Per cent.	Per 1,000.
Michigan ¹⁷¹	2	1,520,597	28,122	1,642	5.8	.80
Milwaukee ¹⁷²	2	170,000	4,045	210	5.5	.90
Minnesota ¹⁷³	1	602,413	8,114	405	5.0	.58
Mississippi ¹⁷⁴	1	1,131,116	14,583	1,783	12.2	1.57
Missouri ¹⁷⁵	1	1,762,077	28,953	3,850	13.3	2.18
Montreal ¹⁷⁶	1	30,150	336	32	9.5	.82
Montreal ¹⁷⁷	1	183,000	4,665	187	7.0	1.02
Nebraska ¹⁷⁸	1	452,404	5,930	417	7.0	.92
Netherlands ¹⁷⁹	1	62,666	728	147	20.2	.36
Nevada ¹⁸⁰	5					2.30
New Archangel ¹⁸¹	10					1.10
New Brunswick ¹⁸²	10					.30
Newfoundland ¹⁸³	10					.30
New Hampshire ¹⁸⁴	10	346,991	11,784	917	7.7	1.32
New Haven ¹⁸⁵	10		1,228	75	6.0	1.20
New Jersey ¹⁸⁶	3	812,855	38,796	1,850	4.5	1.10
New Mexico ¹⁸⁷	1	119,565	2,436	160	6.8	1.34
New Orleans ¹⁸⁸	3	200,000	21,520	954	4.4	1.59
New York ¹⁸⁹	20	5,062,122	245,556	17,698	7.2	1.03
New York City ¹⁹⁰	36	1,206,204				2.93
Norway ¹⁹¹	1	1,756,965	29,417	872	2.9	.50
Norway and Sweden ¹⁹²	1					1.60
North America ¹⁹³	1				6.1	1.21
North Carolina ¹⁹⁴	1	1,399,759	21,547	1,280	5.9	.91
Nova Scotia ¹⁹⁵	10					1.10
Ohio ¹⁹⁶	1	2,742,315	32,277	2,074	6.4	.75
Ontario ¹⁹⁷	14	1,800,000	245,759	13,198	5.3	.81
Oregon ¹⁹⁸	1	174,768	1,864	89	4.8	.51
Ottawa ¹⁹⁹	3	30,791	3,185	113	3.5	1.20
Paris ²⁰⁰	26					2.56
Pennsylvania ²⁰¹	1	3,111,522	41,294	3,021	7.3	.97
Petersburg ²⁰²	1	21,000	506	36	7.0	1.75
Philadelphia ²⁰³	48	750,000	64,579	4,086	6.2	1.30
Pittsburgh ²⁰⁴	7	170,000	30,056	2,311	7.6	1.65
Providence ²⁰⁵	23	100,000	14,542	2,017	7.2	1.30
Rhode Island ²⁰⁶	16	276,531	59,258	3,773	6.4	.90
Richmond ²⁰⁷	3	60,000	4,752	229	5.1	1.29
Rochester ²⁰⁸	2	80,000	3,937	145	5.5	.99
Russia ²⁰⁹	1					1.05
San Antonio ²¹⁰	1	45,000	775	15	1.0	.33
Sandwich Islands ²¹¹	1				2.0	.61
San Francisco ²¹²	1	200,000	4,436	326	8.0	1.63
Savannah ²¹³	16		9,512	470	5.2	1.70
Selma ²¹⁴	1	6,000	100	12	12.0	2.00
Scotland ²¹⁵	18					.73
Sierra Leone ²¹⁶	1					.50
South America ²¹⁷	1					1.61
South Carolina ²¹⁸	1	945,593	13,570	1,059	7.6	1.12
St. Catharines ²¹⁹	3	9,931	501	35	7.0	1.13
St. Helena ²²⁰	6					.80
St. Louis ²²¹	3	400,000	23,645	1,508	6.3	3.77
St. Paul ²²²	1	125,000	1,519	97	6.3	.97
St. Thomas ²²³	3	10,811	297	23	7.8	.97
Switzerland ²²⁴	1					1.50
Tennessee ²²⁵	1	1,499,000	24,529	2,118	8.6	1.41
Texas ²²⁶	1	1,591,749	25,030	2,514	10.4	1.59
Toronto ²²⁷	3	105,211	6,508	434	6.6	1.39
Turin ²²⁸	10					2.20
United States ²²⁹	1	50,155,783	756,893	63,625	8.4	1.26
U. S. Army ²³⁰	2		71,192	7,091	10.0	
U. S. Marine ²³¹	6		2,818	256	0.1	
Utah ²³²	1	143,963	2,414	295	12.2	2.06
Vermont ²³³	1	332,286	5,024	496	9.8	1.49
Virginia ²³⁴	1	1,448,995	23,507	1,807	7.7	1.24
Washington ²³⁵	1	75,116	755	59	7.9	.71
West Virginia ²³⁶	1	618,457	7,418	432	5.8	.70
Wisconsin ²³⁷	1	1,199,910	13,652	930	6.9	.78
Würzburg ²³⁸	4					1.50
Wyoming ²³⁹	1	20,789	180	18	9.5	.90
Zürich ²⁴⁰	23		29,147	2,581	8.8	2.95
Total and averages			2,745,985	196,568	7.1	1.27

¹ U. S. Census Reports, 1880.² Chamberlain, N. E. Med. Mon., June, 1883, p. 406; Sanders, Am. Jour. Med. Sci., July, 1882.³ Laveran, Mal. des Armées, Paris, 1875.⁴ Sanders, op. cit.⁵ Tulloch, Brit. Army Rpts., 1838. For Negroes it is 3.90.⁶ U. S. Census Reports, 1880.⁷ Ibid. Sanders, op. cit.⁸ U. S. Marine Hospit. Serv. Reports.⁹ Sanders, op. cit.¹⁰ Sanders, op. cit. According to U. S. Census Rpts., 1880, 2.96%.¹¹ Niles and Russ, Med. Statist., etc., N. Y., 1827, 1819-26; Joyces, Am. Jour. Med. Sci., Oct., 1850, p. 297, 1830-1850; Frick, Am. Jour. Med. Sci., Oct., 1855, p. 312, 1850-55; Rpt. Bd. Health, 1878-1886.¹² Klinger, Lungenk. in Bayern, 1874. Sanders gives it 1.49.¹³ Ziemssen, Prager Vierteljahrsschr., 1858.¹⁴ Sanders, op. cit. In two of the largest cities the rate was 1.74¹⁵ Ontario Reg. Rpt., 1883-4-5.¹⁶ Gordon, Med. Times and Gaz., Aug., 1856, p. 188.¹⁷ Hirsch, Handb. d. Hist.-Geog. Path., Erlangen, 1864, Bd. ii, S.¹⁸ Pulvermacher, Inaug. Diss., Berlin, 1882.¹⁹ Tulloch, Army Reports, 1853.²⁰ Kiinnis, Edinb. Med. and Surg. Jour., Vol. lxxvi, p. 256.²¹ Shattuck, Am. Jour. Med. Sci., April, 1841, p. 369; Ziemssen, l. c.²² Ontario Reg. Rpt., 1883-84-85.²³ Ziemssen, op. cit.²⁴ Tulloch, Army Reports. At Sea Island Stations, .50 per 1,000.²⁵ Board of Health Report, 1878.²⁶ U. S. Census Reports, 1880.²⁷ Tulloch, Army Reports, 1853; Ziemssen, op. cit.²⁸ Tulloch, Army Reports, 1840. Hottentots gave a rate of 1.22.²⁹ Tulloch, Army Reports, 1853.³⁰ Sanders, op. cit.³¹ Tulloch, op. cit., 1841. Malays, 1.10, blacks, 3.20.³² Rpt. City Board of Health; U. S. Census Report, 1880.³³ Report Board of Health, 1878.³⁴ Walton, U. S. Naval Reports, 1881, p. 67.³⁵ Report Board of Health, 1880.³⁶ Report Board of Health, 1878-1887.³⁷ U. S. Census, 1880.³⁸ Board of Health Report, 1885.³⁹ Ziemssen, l. c.; Berichten d. Dänischen Gesundheitsampt⁴⁰ Ziemssen, op. cit. Sanders, op. cit.⁴¹ U. S. Census Reports, 1880.⁴² U. S. Census Reports, 1880. Exclusive of Wilmington.⁴³ Sanders, op. cit.⁴⁴ U. S. Census Reports, 1880.⁴⁵ Board of Health Reports⁴⁶ Meyer, Med. Topog. Dresden, 1840.⁴⁷ Ziemssen, op. cit.⁴⁸ Stark, Edinb. Med. and Surg. Jour., Vol. lxxvii, p. 624; lxxix,⁴⁹ P. 512; lxxi, p. 380.⁵⁰ Ziemssen, op. cit.; Sanders, op. cit. In 13 cities the rate was 1.22, and in England and Wales, combined, 1.03. See Eighteenth An. Rpt. Reg. Gen., London, 1857.⁵¹ Sanders, op. cit. In 65 principal cities the rate was 1.60.⁵² U. S. Census Report, 1880. Sanders, l. c., gives it 1.39.⁵³ Sanders, op. cit. Sanders, op. cit.⁵⁴ Laveran, Ann. d'Hyg., 1860. In the Army in Algiers the rate was—715 deaths, 46 pneumonic fever—6.4. See Laveran, Mal. des Armées, p. 28.⁵⁵ U. S. Census Reports, 1840. The State system of registration is so faulty that it cannot be used.⁵⁶ Hermann, Lungenentzündung, 1880.⁵⁷ Sanders, op. cit. In 19 large cities the rate was 1.54.⁵⁸ Hermann, op. cit.⁵⁹ Ontario Reg. Reports, 1883-84-85.⁶⁰ D'Espine, Ann. de la Mortal. Genev.⁶¹ Ziemssen, op. cit.⁶² Tulloch Army Reports, 1853.⁶³ Baerensprung, Epidem. Krankh. in Halle, 1854; Abh. d. Naturf. Gesellsch. in Halle, Bd. i.⁶⁴ Ziemssen, op. cit.; Hamb. Zeitschr. f. Med., Bde. 18, 21, 24, 27, 30, 33, 36, 39 u. 40; Walton, U. S. Naval Rpts., 1879, for percentage.⁶⁵ Ontario Reg. Reports, 1883-84-85.⁶⁶ Board of Health Report, 1887.⁶⁷ Sanders, op. cit.⁶⁸ U. S. Census Reports, 1880.⁶⁹ State Board of Health Report 1885; U. S. Census, Rpts., 1880. Exclusive of Chicago.⁷⁰ U. S. Census Reports, 1880, and Reports State Bd. of Health, 1884-85-86. The latter are so unreliable that they can not be employed in calculating the rate per 1,000 of population.⁷¹ Tulloch, British Army Reports, 1853.⁷² U. S. Census Reports, 1880.⁷³ Ziemssen, op. cit.; Sanders, op. cit., gives the rate as .31, and in four of the largest cities .54.⁷⁴ Sanders, op. cit. In four large cities the rate was 2.95.⁷⁵ Tulloch, Army Reports, 1838.⁷⁶ U. S. Census Reports, 1880; Sanders, op. cit., gives it 1.49.⁷⁷ U. S. Census Reports, 1880. Exclusive of Louisville.⁷⁸ Ontario Reg. Reports, 1883-84-85.⁷⁹ Report Board of Health, 1878.⁸⁰ Stark, Edinb. Med. and Surg. Jour., Vol. lxxvii, p. 624, Vol. lxxix, p. 512, Vol. lxxi, p. 480.⁸¹ Ziemssen, op. cit.⁸² Ziemssen, op. cit.⁸³ Ontario Reg. Reports, 1883-84-85.⁸⁴ U. S. Census Reports, 1880. Exclusive of New Orleans.⁸⁵ Balfour, Edinb. Med. and Surg. Jour., Vol. lxxviii, p. 33.⁸⁶ U. S. Census Reports, 1880. Sanders gives it .62 per 1,000.⁸⁷ Tulloch, Army Report, 1839. In civil life it was .30 per 1,000.⁸⁸ See Tulloch's Report for 1853.⁸⁹ Salvagnoli Marchetti, Ann. Univ., 1846.⁹⁰ U. S. Census Reports, 1880. Excepting Baltimore.⁹¹ Population excepts largest cities, see U. S. Census Reports, 1880. Other facts, Reg. Reports, 1870; Palbey, Reg. Reports, 1845.⁹² Grant, Am. Jour. Med. Sci., July, 1853, p. 94.⁹³ U. S. Census Rpts., 1880. Excludes Detroit; Reg. Rpts., 187-6⁹⁴ Board of Health Reports, 1878, 1880.⁹⁵ U. S. Census Rpts., 1880. Excludes St. Paul and Minneapolis.⁹⁶ U. S. Census Reports, 1880.⁹⁷ U. S. Census Reports, 1880. Ibid.⁹⁸ Report Board of Health, 1887.⁹⁹ U. S. Census Reports, 1880.¹⁰⁰ Sanders, op. cit.¹⁰¹ U. S. Census Reports, 1880.¹⁰² Blaschke, Med. Topog. Nova Archangélcensis.

The mortality from pneumonic fever bears the relations to that from phthisis, cancer, diphtheria and typhoid fever shown in the following table :

TABLE IV.—SHOWING PREVALENCE OF PNEUMONIC FEVER COMPARED WITH CERTAIN OTHER DISEASES.

Per cent. of deaths and deaths per 1,000 of population.

LOCALITY.	Years.	Pneu- monic Fever.	Phthisis.	Cancer.	Diph- theria.	Ty- phoid Fever.					
Baltimore ¹¹² .	1	6.5	1.13	14.1	2.80	2.4	.40	4.0	.70	2.0	.35
Cincinnati ¹¹³ .	20	6.7	1.54	13.0	2.96	1.4	.33	3.1	.70	2.4	.56
Connecticut ¹¹⁴ .	10	6.6	1.15	13.8	2.20	2.4	.40	5.8	.93	2.7	.44
Hartford ¹¹⁴ .	6	7.4	1.66	12.8	2.46	2.4	.46	9.1	.75	2.0	.49
N. Hampshire ¹¹⁵ .	1	7.7	1.32	13.8	2.45	3.4	.61	2.4	.43	2.2	.40
New York ¹¹⁶ .	1	7.2	1.03	14.0	2.4	2.4	10.0	2.2	2.2	2.2	2.2
Pittsburgh ¹¹⁷ .	14	7.6	1.65	9.6	2.22	2.2	5.2	1.31	15.6	3.78	3.78
St. Paul ¹¹⁸ .	1	6.3	.77	7.5	1.20	1.9	.23	9.3	1.14	4.4	.54
Unit'd States ¹¹⁹ .	1	8.4	1.26	12.1	1.83	2.3	.42	4.9	.76	3.0	.49
Averages . . .		7.1	1.27	12.3	2.26	2.3	.42	6.0	.96	4.0	.61

¹¹² Tulloch, op. cit., 1853.

¹¹³ Tulloch l. c.

¹¹⁴ U. S. Census Reports, 1880; Rpt. Reg., 1885.

¹¹⁵ Board of Health Reports.

¹¹⁶ U. S. Census Rpts., 1880; Reg. Rpts., 1878-79. Population exclusive of Newark and Jersey City. Sanders makes the rate .59 per 1,000; see op. cit.

¹¹⁷ U. S. Census Reports, 1880.

¹¹⁸ Rpt. Bd. of Health. See also Stark, Edinb. Med. and Surg. Jour., Vol. lxxv, p. 130, who gives the rate .90.

¹¹⁹ U. S. Census Reports, 1880; Lee, Copland's Med. Dic., N. Y., 1855, Vol. ii, p. 891; Rpts. St. Bd. Health, 1878, 1879, 1885.

¹²⁰ Rpt. Bd. Health; Dummel Am. Jour. Med. Sci., May, 1838.

¹²¹ Walton, U. S. Naval Reports, 1879.

¹²² Sanders, l. c. In two large cities the rate was 1.99.

¹²³ Chamberlain, op. cit.; Sanders, op. cit.

¹²⁴ U. S. Census Reports, 1880.

¹²⁵ Tulloch's Reports, 1853.

¹²⁶ U. S. Census Reports, 1880. Exclusive of five large cities.

¹²⁷ Ontario Reg. Rpts., 1883-84-85.

¹²⁸ U. S. Census Reports, 1880.

¹²⁹ Ontario Reg. Reports, 1883-84-85.

¹³⁰ Ziemssen, op. cit.; Trébuchet, Ann. d'Hyg. Ann., T. V, gives the rate as 2.50, and Juergensen, Ziemssen's Hand. d. Spec. Path. and Therap., Bd. V, as 3.82 per 1,000.

¹³¹ U. S. Census Reports, 1880. Exclusive of five large cities.

¹³² Board of Health Report, 1879.

¹³³ Report Vital Statistics, 1876; Trans. Col. Phys. and Surg., Vol. ii; Emerson, Am. Jour. Med. Sci., Nov., 1827, p. 116, Nov., 1831, p. 17, July, 1848, p. 13. This author gives the rate—1827-1840—as 1.10.

¹³⁴ Report Board of Health, 1877-1886.

¹³⁵ Snow, Report Health Officer, 1877-1880.

¹³⁶ Reg. Rpts.; U. S. Census Reports, 1880.

¹³⁷ Board Health Reports.

¹³⁸ Board Health Reports.

¹³⁹ Sanders, op. cit.

¹⁴⁰ Report Board Health, 1887.

¹⁴¹ Sanders, op. cit.; Chamberlain, op. cit.

¹⁴² Report Board of Health, 1876.

¹⁴³ Report on Vital Statistics.

¹⁴⁴ Report Board of Health, 1876.

¹⁴⁵ Sanders, l. c. In eight large cities the rate was 1.12.

¹⁴⁶ Tulloch, Army Rpts., 1840. In the case of Negroes it was 1.10.

¹⁴⁷ Sanders, op. cit.

¹⁴⁸ U. S. Census Reports, 1880. Exclusive of Charleston.

¹⁴⁹ Ontario Reg. Reports, 1883-84-85.

¹⁵⁰ Tulloch, op. cit., 1840. In military life the rate was .50.

¹⁵¹ Report Board of Health.

¹⁵² Report Board of Health, 1886.

¹⁵³ Ontario Reg. Report, 1883-84-85.

¹⁵⁴ Sanders, op. cit. In three large cities it was 1.71.

¹⁵⁵ U. S. Census Reports, 1880.

¹⁵⁶ U. S. Census Reports, 1880.

¹⁵⁷ Ontario Reg. Reports, 1883-84-85.

¹⁵⁸ Inform. Statis., etc., Torino, 1847-52.

¹⁵⁹ U. S. Census Reports, 1880. In 50 large cities the rate was 1.43 per 1,000 of population, and 6.7 per cent. of deaths.

¹⁶⁰ Circular No. 6, War Dept. Osterlen, Med. Stat., S. 573, gives the average of 10 years as 4 per cent.

¹⁶¹ U. S. Marine-Hospital Reports.

¹⁶² U. S. Census Reports, 1880.

¹⁶³ U. S. Census Reports, 1880.

¹⁶⁴ U. S. Census Reports, 1880. Exclusive of Richmond.

¹⁶⁵ U. S. Census Reports, 1880.

¹⁶⁶ U. S. Census Reports, 1880.

¹⁶⁷ U. S. Census Reports, 1880. Exclusive of Milwaukee.

¹⁶⁸ Virchow, Statistik Würzburg, 1859.

¹⁶⁹ U. S. Census Reports, 1880.

¹⁷⁰ Ziemssen, op. cit.; Jahresb. d. Gesundheitsamt d. Canton Zürich, 1848, ff.; Weller, Inaug. Diss., Zürich, 1854, S. 5.

¹⁷¹ Board of Health Report, 1886.

¹⁷² Board of Health Report, 1886.

¹⁷³ Report State Board of Health, 1886.

Osterlen¹⁶⁰ gives the proportion of deaths from pneumonic fever and phthisis as 1.85 and 2.50 per 1000 of population, respectively. Ziemssen¹⁷¹ places them at 1.70 and 3.20 respectively. Juergensen¹⁷² gives the proportion as 1.70 to 3.23 in London; 2.52 to 3.82 in Paris and 1.13 to 2.96 in Berlin. Klinger¹⁷³ found that during the five years, 1868-72, pneumonic fever caused more deaths than phthisis in Bavaria, the proportion being 2.2 and 2.1 per 1000 persons. In Christiania¹⁷⁴ the ratio is 1.16 to 2.85.

In estimating the morbidity of this disease we are met by a very practical difficulty, and that is the impossibility of obtaining statistics which fairly represent the whole body of the population. The available material has all been derived from particular and exclusive classes—such as army and navy returns. That these cannot afford averages applicable to the generality of the inhabitants of the world is self-evident. However I have made use of such materials as are obtainable, and from them constructed the following table:

TABLE V.—SHOWING MORBILITY OF PNEUMONIC FEVER.

AUTHORITY.	Persons.	Cases.	Per 1,000
Circular No. 6, War Dep't., Washington, 1865.	934,444	31,527	33.8
Fitzsimmons, Lancet, 1884, Vol. i, p. 142. . . .	1,465	11	45.2
Forry, Mortal. U. S. Army, Washington, 1840.	3,138	22	7.0
Hermann, Lungenentzündung, etc., S. 13. . . .	59,922	399	6.7
Laveran, Mal. des Armées, Paris, 1875, p. 28. . .	53,137	235	4.4
Tulloch, Mortal. British Army, London	542,427	15,860	29.2
U. S. Naval Reports, 1880-St.	21,353	80	4.2
Totals and averages	1,637,886	48,130	29.9

From this table we find that the average annual morbidity of pneumonic fever is 29.9 per 1000 inhabitants.¹⁷⁵ This is somewhat in excess of the amount given by Forry¹⁷⁶ and quoted with approval by Lee¹⁷⁷ and Drake,¹⁷⁸ viz., 23 cases per 1000 of population. I am convinced, however, that both these estimates are excessive, due to the fact that soldiers are more liable to this dis-

¹⁷⁵ Board of Health Report, 1887.

¹⁷⁶ Report State Board of Health, 1885.

¹⁷⁷ Board of Health Report, 1886.

¹⁷⁸ Board of Health Reports, 1880-87.

¹⁷⁹ Board of Health Report, 1886.

¹⁸⁰ U. S. Census Reports, 1880.

¹⁸¹ Med. Statistics, S. 377 u. 566.

¹⁸² Op. cit., S. 14.

¹⁸³ Op. cit., S. 12.

¹⁸⁴ Lungenkrankh. in Bayern, München, 1874, S. 2 u. 18.

¹⁸⁵ Colles, U. S. Naval Rpts., 1881, p. 414.

¹⁸⁶ Hirsch, op. cit., gives a table upon this point which is appended with the comment that to me it is very unsatisfactory. According to this author the annual sickness from this disease is as follows: In Madras, 21.3 for whites and 1.1 for natives; in Bengal, 11; in Bombay, 6.6; in Sierra Leone, 8 for whites and 8 for blacks; in Ceylon, 17.8 for whites and 13.5 for Malays; in the Antilles, 23 for whites and 45 for blacks; in Jamaica, 14 for whites and 12 for blacks; in Mauritius, 22.6 for whites, and 18.6 for blacks; in Gibraltar, 15; in Malta, 14.6; in Bermuda, 7; in Cape Town, 29 for whites and 3.6 for Hottentots; in Cape Colony, 23.4; in St. Helena, 4.1; in the Ionian Isles, 10.1; in the United States Army, 14 for cavalry, 13.7 for artillery and 19.7 for infantry; in Canada, 19.7; in Nova Scotia, 14; in Newfoundland, 7.2; and in New Brunswick, 14.

¹⁸⁷ Mortal. U. S. Army, Wash., 1840, p. 246.

¹⁸⁸ Copland's Med. Dic., N. Y., 1855, Vol. ii, p. 890.

¹⁸⁹ Dis. Int. Valley N. A., Phila., 1854, p. 799.

2.6 per cent. of the cases in the Vienna hospitals;²⁰¹ 6.6 per cent. of the admittances into the Paris hospitals;²⁰² 2.5 per cent. of the sickness in the Berlin hospitals;²⁰³ 2 per cent. in those of Stüttgart;²⁰⁴ and 17 per cent. in Salpêtrière of Paris.²⁰⁵

Pneumonic fever prevails, in comparison with certain other diseases, as shown in table VII.²⁰⁶

TABLE IX.—SHOWING FLUCTUATION OF PNEUMONIC FEVER.
Morbidity.

HOSPITAL.	Per ct. of admissions				
	Years.	Mean	Maximum	Minimum	Fluctuation.
German Hospital, Philadelphia	7	1.3	3.0	.9	2.1
Kieler Poliklinik	30	3.6	6.3	2.1	4.2
Newport Hospital	3	2.8	4.0	1.6	2.4
New York Hospital	10	1.3	1.8	.8	1.0
Pennsylvania Hospital	15	1.5	2.7	.6	2.1
Roosevelt Hospital	15	1.9	2.8	.8	2.0
St. Louis City Hospitals	3	1.6	1.8	1.4	.4
St. Mary's Hospital, Cincinnati	5	1.2	2.1	1.4	.7
St. Paul's City Hospital	2	2.4	3.4	1.5	1.9
University of Pennsylvania Hospital	4	.1	.2	.1	.1
United States Marine-Hospital Service	10	.9	2.1	.5	1.6
Means of totals		1.5	2.4	.9	1.4

The annual prevalence of pneumonic fever in any given locality will vary from time to time, within wide limits, as shown in tables VIII and IX.²⁰⁷

Huss²⁰⁸ found the admissions for pneumonic fever into the Seraphim hospital of Stockholm during sixteen years to vary from 6.5 per cent. to 15.4 per cent. of internal diseases. His statistics give a mean of 10 per cent. and a fluctuation of 8.9 per cent.

THE DETECTION OF THE BACILLUS TUBERCULOSIS, TECHNIQUE.

Read before the Chicago Medical Society February, 18, 1889.

BY FRANK BILLINGS, M.D.,
OF CHICAGO.

The form of the bacillus tuberculosis is not characteristic, and it cannot, therefore, be differentiated from other pathogenic and non-pathogenic bacteria by its form alone. It is a very thin bacillus, about 2 to 5 micromillimetres in length (from one-quarter to one-half the diameter of a red blood-corpuscle). It is usually slightly bent.

Like all protoplasmic cells it has an affinity for the aniline colors, and its reaction to these colors is characteristic when the aniline is combined with a mordant.

To elicit the characteristic reaction of the bacillus to the aniline colors it is necessary to proceed in a methodical manner. The instruments used, forceps, needles, etc., should be clean, sterilized by heating in a gas or other flame. The cover-glasses and slides should be cleansed in fine alcohol.

The material supposed to contain the bacilli should be collected in a clean vessel, and when collected should be protected from contamination by the air, etc.

The material should be spread in a very thin layer upon a cover-glass, by means of a needle, or by placing a small amount upon one glass and then pressing another cover-glass upon the first, thus making a thin layer upon the two cover-glasses. The thin film is then allowed to dry upon the cover-glass, or the drying may be hastened by warming it over a gas flame. Then, when dry, by passing the cover-glass quickly two or three times through the flame, the albumin usually present in the medium, fixes the film upon the glass.

The cover-glass is now ready for the aniline dye. One may use any color, but aniline violet, methyl blue or fuchsin is usually employed. Fuchsin is the most often used, because its bright red renders the bacilli more prominent to most observers; and, too, one may use with it, better than with the other colors, a contrast color for the ground substance on the cover-glass.

The color used must be combined with a mordant, which so fixes it in the bacillus of tuberculosis as to render it very much less susceptible to the bleaching effects of the mineral acids, while it does not so affect other bacteria, with but two exceptions, which I shall mention later.

There are several substances that may be used as a mordant: aniline water, carbolic acid, tannic acid, and others. Aniline water was first used, and is still by some, but the mordant now in common use, and the one used by Prof. Koch, is carbolic acid. It has the advantage over aniline water that a solution of it with the color may be kept indefinitely, while the aniline water solution must be made each time it is used.

The following solution of fuchsin (Ziehl & Neelson) is a satisfactory one in every way:

Take of Fuchsin 1 part,
Acidi carbolic 5 parts,
Alcoholis 10 "
Aque distillate 100 "
Mix in the order given.

A few drops of the staining fluid are placed upon the cover-glass, held in a forceps with the film upwards over a gas or alcohol lamp flame until the solution boils or gives off steam. It is then washed in water and is ready for the process of bleaching.

For bleaching, any of the mineral acids may be used. A 25 to 33 per centum watery solution of

²⁰¹ Juergensen, op. cit., S. 12.

²⁰² Grisolle, op. cit., p. 127.

²⁰³ Juergensen, op. cit., S. 12.

²⁰⁴ Ibid.

²⁰⁵ Grisolle, op. cit., p. 127.

²⁰⁶ For further information on this subject consult Huss, op. cit., Juergensen, op. cit., Fritsch, Erlangen Diss., and others.

²⁰⁷ No effort has been made to render these tables exhaustive.

²⁰⁸ Op. cit., S. 63.

hydrochloric, nitric or sulphuric acid is used. Koch prefers nitric acid, his laboratory assistant uses sulphuric, while at Vienna hydrochloric is chiefly used. It is probably immaterial which acid is employed.

The stained cover-glass is immersed in the acid solution for a moment, then in a 70 per cent, water solution of alcohol, and finally washed in water. The immersion in acid, alcohol and water, successively, being repeated until the color is almost or quite bleached. This process leaves the bacillus tuberculosis colored red, while the ground substance and all other bacteria, with the two exceptions mentioned, are bleached. The mordant used enables the bacilli of tuberculosis to retain the color. Too long immersion in the acid will also overcome the action of the mordant and render the examination *nil*. The cover-glass should be finally thoroughly washed in water to remove all acid, otherwise the slight amount of acid remaining will gradually fade the color and in a few months the preparation will become worthless.

The cover-glass may now be mounted on a slide in water or glycerine, or, after drying, in Canada balsam. One may, however, use a contrast color—methyl blue for the ground work. It is only necessary to float the cover-glass, with the film downward, upon a 1 to 2 per cent. watery solution of the methyl blue for five minutes. The excess of blue color is washed off with water, the cover-glass dried and mounted. The bacilli of tuberculosis will be seen stained red and other elements will be blue.

For tissue containing the bacilli it is necessary to immerse the sections for from 12 to 24 hours in the fuchsin solution. They are then decolorized by immersion in the acid solution, the alcohol, etc., until only a faint redness remains. The sections are then dehydrated in alcohol and cleared up in the oil of cloves. When mounted the bacilli are seen red, the tissue decolorized. The methyl blue may be used as a contrast color, also, for sections.

To easily detect the bacilli so prepared, one should have a microscope magnifying at least 450 diameters; however, the bacilli may be seen with a less powerful glass. An ordinary stand and substage will do for cover-glass preparations, but an Abbé substage condenser is a decided aid to the discovery of the bacilli in cover-glass preparations, and it is absolutely necessary in examining sections.

The discovery of the bacillus tuberculosis in the excretions, secretion or exudates examined is positively diagnostic of a tubercular disease. When it cannot be detected its absence is not of much diagnostic value, for it may be present in such small numbers as to render its detection difficult or impossible. When it is not found readily repeated examinations of material collected on

different days must be made to make its absence of any worth as a negative sign.

The bacillus is most easily detected in the sputa of tuberculosis pulmonum. It is most difficult to detect in the blood, even in cases of acute general tuberculosis.

It is not usually difficult, as a rule, to detect it in the exudates into serous cavities; as in tubercular pleuritis, tubercular peritonitis and tubercular synovitis. I have found the bacillus in the contents of a distended Fallopian tube.

In tubercular disease of bone it is usually present in the cheesy infiltrate, but is difficult to find in the pus from sinuses in tubercular diseases of bone.

In the urine the bacillus is difficult to detect because of the bulk of urine and the decomposing effects of the urine. *Then the preputial and labial smegma bacillus* gives the same color reaction as the tubercle bacillus, and its form is so nearly like the bacillus of tuberculosis that it cannot be differentiated from it with the microscope. The presence, therefore, of a bacillus in secretions from the genitals, giving the color reaction and presenting the form of the bacillus tuberculosis is not here, as it is elsewhere, a positive sign of tuberculosis.

In tubercular disease of the skin and mucous membranes the secretion therefrom sometimes contains the bacillus. Sections made from tissue taken from tubercular ulcers usually yield the bacillus.

The bacillus of leprosy is nearly like the tubercle bacillus in form, and it gives the same color reaction. The clinical course of leprosy is so distinct, and the disease is so rare in this climate that it is not difficult to exclude it when considering a tubercular disease.

No. 235 State Street.

COMPLETE REMOVAL OF THE UTERUS AND ITS APPENDAGES FOR FIBRO- CYSTIC GROWTH.

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COLUMBUS, OHIO.

Reported by T. M. TALBOT, A.M., M.D.

About January 1, 1888, Dr. Pearce, of Urbana, Ohio, was consulted by Mrs. C., æt. 36, in reference to an abdominal enlargement. On examination a globular body, the size of a foetal head at birth, was found in the right hypogastric region. Cystic disease of the right ovary was diagnosed. The tumor being small and the patient anæmic and in poor general health, noninterference for the present was advised. The patient was put upon bark and iron, and a general tonic treatment. Under this treatment she increased in strength and health, but with this improvement

there was a rapid increase in the growth of the tumor.

August 1, 1888, the patient again consulted Dr. Pearce. The tumor now filled the entire abdominal cavity, reaching up to the ensiform cartilage. The patient was nervous and irritable, and owing to the great distention of the abdominal muscles, she was suffering intensely from neuralgia at the tendonous insertions of these muscles. An immediate operation for the removal of the tumor was advised, but the patient, being of an exceedingly nervous temperament, could not make up her mind to undergo an operation. Accordingly, in the hope of obtaining relief otherwise than by operation, she consulted surgeons in both Cleveland and Cincinnati. These advised immediate removal of the tumor.

Meanwhile the tumor grew larger, and the patient grew weaker and more emaciated. It was not until death seemed imminent that she consented to an operation.

On November 5, 1888, assisted by Drs. J. H. Ayers, I. W. Goddard, H. M. Pearce and T. M. Talbot, Dr. Pearce operated at the home of the patient. This home, by the way, was a comfortable and commodious house. A room was selected with a view to size, light and ventilation. It was heated by an open grate, and received light from the west and south.

Before beginning the operation the temperature of the room was raised to 80° F. The patient was then etherized and placed upon the table. The abdomen was washed thoroughly with soap and water, then shaved, and finally washed with a 5 per cent. solution of carbolic acid.

The operation was begun by making an exploratory incision, two and one-half inches long in the median line, about half-way between the umbilicus and the symphysis pubis. Examination revealed a large fibro-cystic tumor of the uterus, strongly adherent to the right abdominal wall and surrounding tissue, and which had grown from the uterus and extended up to the ensiform cartilage.

The primary incision, being too small to make a complete examination, was increased to three and one-half inches. The ovariotomy trochar and cannula was then introduced, but the cyst could be only partially emptied of its fluid contents. The cannula was reintroduced at different points, but the fluid still remained to a considerable extent. Further examination showed the cyst to be divided by thick fibrous walls into three principal compartments. Each of these compartments was divided into numberless compartments or cysts by fibrous bands extending in all directions from the walls of the principal cyst. This condition, of necessity, rendered complete evacuation of the fluid contents of the tumor impossible. Accordingly the mass was loosened

from its posterior and lateral adhesions, and with difficulty it was drawn out of the original opening of three and one-half inches. After bringing out the sac or fibrous mass it was found that the growth had begun at the junction of the body of the uterus with the cervix—the point known as the isthmus. The growth enveloped the entire body of the uterus, and involved and completely surrounded both ovaries and broad ligaments. It was bound down laterally and posteriorly by fibrous adhesions that were difficult to break up, and which left a large bleeding surface within the cavity of the abdomen. These were unlooked for complications; and it left but one of two courses to pursue, viz.: the return of the mass entire or the removal of the tumor, including the uterus and all of its appendages.

The latter procedure was resolved upon, and carried out in the following manner: A Spencer Well's clamp was placed just below the junction of the body and cervix, and then tightened as much as possible without severing the parts. All the arteries supplying the broad ligaments and uterus were then tied with silk braid. This being done, the entire mass, tumor, uterus, and appendages was removed by cutting it off just above the clamp. The mass weighed thirty pounds.

The abdominal cavity was now thoroughly washed out with water, previously boiled and cooled to a temperature of 100° F. Several silk-braid sutures were passed through the abdominal walls, including the peritoneum; but before trying them a half-inch glass drainage tube was introduced into Douglas' cul-de-sac, and the peritoneum brought together by continued catgut suture. The ends of the deep suture were then tied, thus completely closing the wound except where the tube and clamp were.

The cavity was again washed out with warm water until the water came away clear. The incision was dusted over with powdered iodoform, and covered with silk isinglass plaster, moistened with a 5 per cent. solution of carbolic acid; over this plaster was placed a layer of iodoform gauze, then a layer of absorbent cotton, and all were held in place by a tight binder.

In this condition the patient was put to bed, and rubber bottles, filled with hot water, were placed to the extremities. Although the operation was quite tedious, lasting almost an hour, there was little apparent shock. This was very remarkable, when we take into consideration the frail and nervous condition of the woman, the nature and extent of the operation, together with the extensive adhesions of the tumor to the walls of the abdomen.

Twelve hours after the operation the temperature rose to 99.5° F., and the pulse to 120; eighteen hours after the temperature was 100° and pulse 135. At the end of thirty-six hours

the temperature was 100.5° F. and pulse 115. The temperature remained thus for five days, but the pulse dropped to 98. From this time on the temperature and pulse were practically normal.

The subsequent treatment is that to which especial attention is called. At the end of eighteen hours all the dressings were taken off, and the accumulated fluid removed as follows: A flexible rubber tube, about the size of a No. 12 soft rubber catheter, was attached to the nozzle of a syringe; the free end of this tube was passed in the drainage tube to Douglas' cul-de-sac, and the fluid drawn up into the syringe. The fluid thus removed amounted to about three ounces, and was sanguineous and very foetid in character. After the removal of the fluid the cavity was thoroughly washed out with water previously boiled and tempered to 102° F. The remaining water was withdrawn by means of the syringe as before described. No antiseptics were added to the water, nor were any antiseptics at any time used within the cavity of the abdomen. This mode of treatment was followed out twice in every twenty-four hours as long as this foetid fluid, before mentioned, accumulated in the cavity—which was twenty-two days.

On the twenty-second day the clamp came off, leaving a clean healthy-looking stump of the cervix. The sutures that still remained were removed, the glass drainage tube taken out, and a small rubber drainage tube was substituted. This tube was left in for one week. The syringe and a smaller rubber tube was used to draw out whatever pus accumulated, and the cavity washed out as before—though now once a day.

Particular mention is thus made of the washing out process, not because it is new in such cases, but because of the frequency with which it was employed. That this frequent and complete irrigation of the cavity has been of the greatest utility in this case is evidenced by the fact, that during the whole time, though removal of the tumor and uterus left a large suppurating surface within the cavity of the abdomen, there was little rise of temperature, and no tympanites nor tenderness over the abdomen.

The diet during the first three weeks was almost exclusively milk, which was taken cold and in liberal quantities. Since the first four weeks the diet has been somewhat liberal and varied. The other treatment has been such as is customary in ordinary abdominal sections.

The patient's recovery, owing to her emaciated and weakened condition prior to the operation, has been slow but steady. The wound has closed, leaving a smooth cicatrix about two and one-half inches long. The patient's appetite and general appearance have improved very much since the operation, and she has gained very rapidly in flesh. Her recovery is complete and very satisfactory.

MEDICAL PROGRESS.

A METHOD OF GENERATING NEUTRAL FUMES OF AMMONIUM CHLORIDE OR BROMIDE FOR INHALATION has been devised by DR. PATRICK WILLIAM MAXWELL, of Dublin. The instrument is made by Messrs. Anderson and Adams, 68 Grafton St., Dublin. It consists of a wide piece of glass tube, like the cylinder of an ordinary glass syringe, placed horizontally on two wooden uprights. About 15 grs. of ammonium chloride are introduced by a spoon through the wide end of this tube, and are placed in a little heap in the centre. The base is then lightly stopped with cotton wool. A lighted spirit-lamp, placed below the tube volatilizes the salt. A piece of india-rubber tubing with a glass mouthpiece is attached to the narrow end of the tube, by means of which the fumes are inhaled. A current of cold air rushing in by the large end of the horizontal tube mixes with the fumes and reduces their temperature, so that they are not more than slightly warm. These fumes are perfectly neutral from first to last, as is proved by passing them through red or blue litmus solution. Even phenol-phthalein does not become colored. There is also no free chlorine, for starch paper is unaffected. In the course of the inhaling tube is placed a glass bulb filled with glass wool moistened with water. This prevents the fumes from being too dry. Besides being perfectly neutral the fumes supplied by this instrument have the advantage of containing more ammonium chloride than is contained in the same volume of fumes from the ordinary inhalers.

When it is desired to apply the fumes to the middle ear a tube rather longer than the ordinary one can be attached to an Eustachian catheter, and the fumes pumped in by an india-rubber hand-ball fitted to the larger end of the horizontal tube.

The fumes, if desired, can be medicated by oil. pin. sylvest., eucalyptus, etc., by dropping about 5 ℥ of the oil upon the wool at the wide end of the tube.

As the iodine and bromine salts seem, when given internally, to have a greater selective affinity for the nose and throat than the chlorides, it occurred to me to try whether their ammonium compounds could be volatilized for inhalation. In the case of iodide of ammonium I found that though the greater part was volatilized as such, still it was mixed with so much free iodine and ammonia as to be very irritating and quite unfit for inhalation. In the case of bromine of ammonium, when only a moderate heat is used, the salt volatilizes unchanged, but as the temperature rises the odor of bromine can easily be detected in the fumes. Its presence can also be shown by its blueing starch and iodide paper. It was natural to expect, at least an equal amount of free am-

monia. Red litmus was not changed, but phenolphthalein gave a slight red. Ammonia is therefore present, but only in very small quantity. The quantity of free bromine must also be very small, as none of the patients who have as yet used these fumes have found them irritating. If the glass-wool is wet with an aqueous solution of resorcin of about 20 grs. to the $\frac{5}{8}$ j, all free bromine will be absorbed from the fumes. All ammonia is also, as already stated, absorbed by the water, so the fumes may be said to be neutral and pure.

The action of bromide of ammonium fumes seems to be very similar to that of the chloride. The bromide seems to draw more fluid from the mucous membrane, its greater osmotic effect being due probably to its greater molecular weight; it seems to have a sedative action on the mucous membrane of the entire nose and throat. This has been observed for some time as regards the pharynx. As the internal administration of the bromides is occasionally useful in tinnitus, I have thought it worth while trying its effect locally by blowing the fumes into the middle ear. Of course I do not suppose that this would benefit tinnitus of nervous origin, but it might be useful where congestion of the middle ear was the cause. As yet I cannot speak positively as to its effect in this way. I have, however, at present three cases of chronic catarrh of the middle ear with tinnitus which have resisted all the usual remedies. Each of these patients experiences a temporary diminution in tinnitus after applying the fumes through the catheter.¹ The strongest hydrobromic acid (33 per cent. gives off no vapor. I failed to produce any fumes by drawing air through such a solution and mixing it with ammonia. It is, therefore, evident that the ordinary apparatus for producing the chloride would be of no use for generating the bromide of ammonium.—*Dublin Journal of Medical Science*, March, 1889.

TINCTURE OF STROPHANTHUS.—DR. HERMAN HAAS has made a careful study of the action of tincture of strophanthus upon the visible, tactile, and graphic cardiac impulse. Fraser's tincture was used in doses of ten to thirty, or even up to fifty drops. No dangerous symptoms or cumulative action appeared, the appetite improved under its administration, which is contrast to digitalis in many cases. With other observers, he found the pulse slowed, and the patients improved under its use. As a diuretic it was successful in cases in which digitalis had been without avail. In order to observe the effect of strophanthus on the cardiac impulse only, three patients were used who showed a cardiac impulse which could be recognized by the eye and hand, when the patient was lying down; care was taken to observe the effect of a sitting posture or

standing upon the cardiac impulse; curves of both the cardiac impulse and the respiration were taken at the same time.

Before giving any dose it was necessary to study carefully the cardiograms characteristic of that individual. After this had been done, thirty to seventy drops of tincture of strophanthus were given, distributed over one or two days; curves were then taken for several successive days. After the effect of the new drug had passed off, it was repeated, and after a sufficient number of observations had been taken, and an interval allowed, digitalis was given, and the cardiograms of the two drugs were compared.

The results of the observations in all of the above (more than twenty cases) were very similar. It seems that five hours after the administration of tincture of strophanthus the character of the apex beat changes, it becomes ten to twenty beats slower per minute; the heart beat is quieter, and the impulse is weaker. The softening of the blow in the intercostal spaces is noticeable both to eye and finger, as well as to the open hand applied to the chest. In all cases in which there was not considerable hypertrophy of the heart, its lessened activity rapidly went so far that the point of cardiac pulsation was found only with difficulty, or not at all. This action was observed in all cases for a longer or shorter time, according to the dose or the amount of hypertrophy.

Dr. Haas considers the action of strophanthus to be one that diminishes the activity of the heart's muscle, as well as of the muscular layer of the blood-vessels; an action, in other words, not similar to that of digitalis, but directly the opposite. He thinks it doubtful in the light of his observations, if strophanthus increases the blood-pressure, notwithstanding Fraser's observations showing that the heart's muscle is stimulated to make stronger contractions under the influence of this drug.—*Deutsches Archiv für klinische Medicin*, vol. xliii, p. 353.

TREATMENT OF CHRONIC PHARYNGITIS.—In an admirable article by PROF. B. FRÄNKEL, of Berlin (*Therap. Monats.*, Nov. 1888), stress is judiciously laid upon individualization of treatment to suit individual cases, instead of routine measures adopted for universal use. Thus treatment suitable for hypertrophic cases injures atrophic cases, and *vice versa*, while the management of the transitional stages demands an experienced judgment. Precedent disease of the naso-pharyngeal region and of the nasal passages requires topical treatment at the same time; and its relief by such measures is sometimes followed by spontaneous recession of the morbid processes in the oropharyngeal region. At the same time it is incorrect to attribute general pharyngeal catarrh to precedent disease of the nose and of

¹ The condition of one patient remains unchanged. The other two are much improved (Feb. 16th).

naso-pharynx, as has been so much urged by several American writers.

The first indication in treatment is that of the cause. Hence, obstructions in the nose must be combated to restore nasal respiration, and disorders of the mouth and teeth must be corrected. The surroundings of the patient must be modified when at fault, as well as any injurious avocation, habit, or mode of diet or of living. Proper clothing and underclothing are necessary to secure immunity from susceptibilities to cold. As to constitutional treatment, little is to be expected, but change of climate is often of great benefit.

Topical treatment is of chief importance, even in health resorts. The choice of topical agents, and the proper methods of employing them, are carefully detailed.—*American Journal of the Medical Sciences*, March, 1889.

COLOR REACTIONS FOR FREE HYDROCHLORIC ACID IN THE GASTRIC CONTENTS.—SCHAEFFER (*Zeitsch. f. klin. Med.*, B. xv. 162, 1888) reviews the different color reactions for hydrochloric acid, the principal ones of these being, he says, 1, the aniline colors; 2, tropæolin; 3, Congo-red; 4, Mohr's reagent; 5, Uffelmann's test; 6, Günzburg's reagent. Congo-red he considers of no value, for, as Boas has shown, lactic acid will produce the same blueing as hydrochloric acid does. Uffelmann's carbolated-iron reaction is not at all delicate for the inorganic acid. Moreover, a yellow color is produced by a mixture of lactic and hydrochloric acids in certain proportions. For lactic acid the test is delicate, provided no glucose be present, with which it will produce the same tint; and glucose occurs in every stomach when the starches have been ingested.

Mohr's reagent is claimed to be reliable, and the author admits that it is so, in so far that no other substance but hydrochloric acid will give with it the peculiar coloration. His experiments have shown him, however, that it is far from delicate, and that it often fails to reveal the acid when other tests show its presence. Tropæolin is uninfluenced by any organic acid, and is very delicate, especially when used in the form of a tropæolin paper. It is decidedly to be preferred to Mohr's test, though it is not so sensitive as the methyl-violet and Günzburg's reactions.

Of the aniline colors, methyl-violet is the only one largely used, the others not having been found satisfactory. It is very delicate, but unfortunately not reliable, since other substances will produce the same change of color. Especially is it true that a 5 per cent. solution of lactic acid (a strength not so seldom found in the stomach) and of peptone will produce it. The changing from violet to blue may occur, therefore, when there is not a trace of hydrochloric acid present, but the absence of this change is a

positive proof of the absence of the acid. Günzburg's reagent is composed of 2 grams phloroglucin and 1 gram vanillin, dissolved in 30 ccm. alcohol. One or two drops of this are mixed with the same quantity of the fluid from the gastric contents, and heated gently in a shallow porcelain dish. At the edges of the fluid, as it is rolled back and forth, there develops a deep red color if organic acids are present. The author has made careful trials of this reagent, and finds that when the red color does not appear, the other reactions for hydrochloric acid are also absent. He also details his experiments in full which convinced him that the Gunzburg reaction was only absent when there was a complete absence of digestive power in the gastric secretion, depending on a diminution of the free hydrochloric acid. The reaction is not produced by any other body occurring in the gastric secretion than free hydrochloric acid, and is not interfered with by the presence of any other substance. The acid may be present and yet not answer to the test; it being combined with inorganic and organic bases. Thus, in carcinoma ventriculi, if hydrochloric acid be added to the gastric contents, some of it will disappear, having replaced the lactic acid in its combinations and set it free. In these cases, of course, the phloroglucin-vanillin test is negative; but it is always positive when any free hydrochloric acid *capable of digesting* is present. This last clause is, after all, the most important one, for whether any other form of the acid occurs is a matter of indifference from a clinical standpoint.

PREVENTION OF SUMMER DIARRHŒA IN CHILDREN.—DR. L. EMMET HOLT says (*Medical News*, Feb. 23, 1889): The treatment of follicular ulceration of the intestine is extremely unsatisfactory. I believe that the great majority of these cases are fatal. Certainly, I have never seen at autopsy in a child anything which resembled a cicatrized follicular ulcer. Successful treatment must be in the nature of prevention. Prevention must have regard to all the milder intestinal catarrhs.

Regarding neglected diarrhœas during dentition, so much has been said recently that it is scarcely necessary to enter here again a protest. There is to my mind no more reason why an intestinal catarrh should not be treated, and, if possible, cured during dentition than at any other time. The fact that a child with whooping-cough is extremely liable to bronchitis and pneumonia has never been given as a reason why these complications should not be treated promptly and energetically when they arise.

Is an intestinal catarrh ever salutary? This is questionable. A number of loose movements may be of advantage to expel undigested food or other irritating materials from the intestine, but

that a persistent intestinal catarrh, even if not severe, is an advantage to any child at any period remains to be proven. The medical profession should take strong ground against the prevalent popular opinion, that so long as the general health is not affected, an intestinal catarrh is not only of no importance, but may, during bronchitis or dentition, even be beneficial, and that to cure it might be injurious. It is in such cases as these that though amenable to proper treatment in the earlier stages, when allowed to run on, as they often are for weeks or even months, the foundation for grave and even fatal forms of diarrhoeal disease is often laid.

The prophylactic treatment involves then the early recognition and intelligent treatment of all the forms of dyspeptic catarrh: in other words, it means that we must secure proper digestion, and this depends chiefly upon proper feeding.

Our attention has been repeatedly called of late to the importance of seeing that our milk and other infant foods are pure and free from germs and putrefactive products. This is all important. Another danger which has not been often enough emphasized is overfeeding. During the past two years I have been trying to get at some exact data regarding the proper amount of food which an infant, who is artificially fed, should receive at the different periods. This has been studied, first, by measuring carefully at autopsies the capacity of the stomach; and, secondly, by weighing healthy infants who were nursed at proper intervals, before and after they were put to the breast. While I have not yet accumulated sufficient statistics for publication, still enough has been learned so far as to show that the figures given in most of our books are altogether too large, and that the vast majority of hand-fed infants are *very greatly overfed*. Difficulty and failure may result from this fact where every other condition for success has been attended to.

In conclusion I would emphasize the following points:

1. Children should not be overfed at any time, but especially not in summer.

2. At this season, also, every dyspeptic catarrh should be attended to: many of these are promptly curable by merely clearing out the intestine and then cutting down the quantity of food.

3. Should an intestinal catarrh, even a very mild one, continue for two or three weeks, one may be pretty certain that he has something more than a functional disorder to deal with.

4. Every mild catarrh should be looked upon as the possible precursor of a severe type of intestinal disease, either near or remote.

5. In the treatment of all diarrhoeal diseases it should be borne in mind that there is something more to be considered than the bacteria and the products of decomposition, viz., the anatomical changes.

MILROY'S MEDIO-TARSAL AMPUTATION.—At the meeting of the Surgical Section of the Medico-Chirurgical Society of Glasgow on January 25, DR. MILROY, of Kilwinning, exhibited a patient upon whom he had performed a new medio-tarsal amputation, and gave the following account:

On the evening of September 7, 1885, I was called to attend John Young, æt. 19, who had sustained a severe injury to the foot. I learned that a piece of iron about 2 tons in weight had fallen upon the back of his right foot. This weight had crushed and abused the tissues and bones so much, that amputation was considered absolutely necessary. The joint between the internal cuneiform and scaphoid was opened by the falling metal, and the cuboid was broken. The strong plantar tissues remained intact. On proceeding to amputate I left the scaphoid, disarticulated the cuboid, and then dissected a long flap from the sole of the foot. The dressings were first changed on the sixth day, when everything looked well. Progress from this time was uninterrupted. In less than a month the stump was perfectly healed. A short time afterwards he was allowed to go about on crutches, which he by-and-by threw aside, took for a short time to walking-sticks, and finally walked without any assistance. Nearly three and one-half years have elapsed since I performed this operation, and the cicatrix is no nearer the sole of the foot than it was six months after the operation. This young man can walk twenty miles at a stretch. He is working in a foundry where he requires to be on his feet for ten or twelve hours daily, still he complains of no pain in the stump. He walks with a slight spring, he has little or no halt, and wears an ordinary boot. I attribute these happy results to leaving the scaphoid bone. This operation may have been performed hundreds of times, for aught I know to the contrary. It is not, however, taught in our schools, or mentioned in our ordinary textbooks. In the Scotch schools we are told that if we cannot perform a Lisfranc, we should amputate at the ankle-joint by a Syme; at any rate we should keep clear of Chopart. I have in this instance kept clear of the much tabooed Chopart and of Syme also. This stump, to my mind, is superior to a Syme, and much superior to Chopart. There is a little arch formed by the scaphoid, astragalus, and os calcis. The weight of the body comes down almost on the keystone of this little arch. The scaphoid undoubtedly falls from the original position which it occupied in the ordinary and larger arch of the foot, but not so far as to bring the cicatrix under. I find that in such a case as this it falls about 25°, and the os calcis is raised the same. Now, had I made a Chopart instead, no arch would have been left, and the astragalus would fall through 35°, whilst the os calcis would be raised the same. This makes a very great difference, and would be cer-

tain to bring the cicatrix under; besides, the weight of the body no longer falls on the centre, but gives an advantage to the tendo Achillis of about 2 to 1. These facts, then, render this amputation far superior to Chopart's; but it is also superior to Syme's in this—the length of the limb is maintained; he has not that limp peculiar to a Syme; he does not require to wear anything but an ordinary boot; his base of support is greater; and he has, as I have already said, a slight spring. With these few remarks I wish to commend this operation to the consideration of you hospital surgeons, whose experience in operations amongst the tarsal bones is much greater than mine.—*Glasgow Medical Journal*, March, 1889.

FRACTURE OF TWELFTH RIB.—MR. JAMES CANTILE, of Hong Kong, reports two cases of this very rare injury.

Case 1.—On January 2, 1889, a man, the worse for drink, fell from his bed, a height of 3½ feet, on to a spittoon. The violence of the fall was such that the stoneware spittoon was broken in two. Not until the next day did the patient find inconvenience or pain. On the third day after the accident, he came under my observation, when a fracture of the left twelfth rib was evident. The rib was fractured 2 inches behind its tip; the distal portion of the bone was freely movable, and its broken end posteriorly overlapped the proximal portion slightly. Crepitus was evident both to touch and hearing, and to both the patient and myself. There were no complications. An encirclement of flannel gave sufficient support to render the patient more comfortable.

Case 2.—A patient came under my care, in the out-patient room, Charing Cross Hospital, in June, 1882, with fracture of both twelfth ribs. The history given was that of a fall backwards on to the edge of a plank, about 2 feet from the ground. The plank caught the patient across the loins, or rather exactly on the twelfth ribs. The fractures were palpable both to the bystanders and the patient, and the signs and symptoms coincided almost exactly with the fracture recorded under Case 1. No complications arose. The treatment was simply that of support by a flannel bandage, and the bones united with only a small knob of calius around the seat of fracture.

In the same clinic as Case 2 a case of fractured right eleventh rib was met with.—*British Medical Journal*, March 9, 1889.

THE CONTAGIOUSNESS OF PNEUMONIA.—In a long article on this subject NETTER reviews the epidemics of pneumonia which have been recorded, and adds a few other instances which have come within his own experience. His most important conclusions are as follows:

1. Pneumonia is a contagious disease of para-

sitic origin, and is transmissible either directly or by the intervention of a third person, or by inanimate objects, such as wearing apparel, etc.

2. The pneumococci are not destroyed by desiccation, and are diffusible through the air, but not to great distances, at most the interval between three hospital beds. They maintain their virulence for a period which has not yet been definitely determined, but probably never more than three years.

3. Contagion is possible through the entire course of the disease and even after recovery.

4. The period of incubation averages from five to seven days, but may vary between one and twenty.

5. Patients who have passed through a pneumonia are dangerous both to themselves and their neighbors, as living micrococci may be found in their saliva many years after. Thence in part the epidemic appearances of the disease in certain families during long periods, and also its frequent recurrence in certain individuals who have once survived it.

6. Rigid quarantine of the patients seems unnecessary, but other patients and healthy persons should not be brought into too intimate relations with them. The sick-room must be kept well ventilated and clean, the sputum disinfected, and the cocci lurking in the mouth destroyed so far as possible.—*Boston Med. and Surg. Journal*, February 21, 1889.

POSOLOGY OF SOME OF THE LATEST REMEDIES.—From a lengthy compilation in *Nouveau Remedes* for February, embracing a number of drugs which, while comparatively new, are no longer novelties to the pharmacist or physician, we select the following, giving in the first column the maximum single dose for an adult, and in the second the largest quantity that may be safely administered in the course of twenty-four hours:

Article	Maximum dose.	Amount that may be taken in a day.
Acid culebic	16.00 grs.	80 grs.
Acid sclerotinic	1.00 gr.	4 grs.
Adonidine	0.1 gr.	0.3 gr.
Amylene hydrate	80 minims.	
Anemonine	0.50 gr.	1.50 grs.
Apion	16.00 grs.	60.00 grs.
Apocodeine	0.50 gr.	1.50 grs.
Arbutine	16.00 grs.	60.00 grs.
Arseic bromide	0.16 gr.	
Aspidospermine muriate	0.05 gr.	0.10 gr.
Baptistine	0.05 gr.	1.50 grs.
Berberine sulphate	1.00 gr.	3.00 grs.
Boldogluin	60.00 grs.	240.00 grs.
Butyl chloral	16.00 grs.	60.00 grs.
Chlrysarobin	0.08 grs.	0.25 gr.
Convallamarine	0.10 gr.	4.00 grs.
Cotoine	0.50 gr.	2.00 grs.
Ethoxycaine	10.00 grs.	30.00 grs.
Ethyl bromide	20 minims.	1 dram.
Ethyl iodide	20 minims.	1 dram.
Euonymine	8.00 grs.	16.00 grs.
Homatropine	0.50 gr.	1.50 grs.
Iridine	3.00 grs.	10.00 grs.
Parcaine hydrochlorate	8.00 grs.	30.00 grs.
Parthenine	3.00 grs.	15.00 grs.
Picrotoxine	0.10 gr.	0.33 gr.
Silver cyanide	0.08 gr.	0.20 gr.
Silver iodide	0.33 gr.	
Solanine	1.50 grs.	5.00 grs.
Tribromide of allyl	8 minims.	

—*National Druggist*, March 15, 1889.

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THE SENSIBILITY OF THE BLADDER.

In a communication on the "Sensibility of the Bladder in the Normal and Pathological State," made to the Académie des Sciences, on March 14, PROFESSOR GUYON said that in the normal state the sensibility of the bladder is manifested only when the desire to micturate is felt. To determine under what physiological conditions this desire is produced was the object of some researches undertaken by him. These researches have led to the following conclusions: 1. In the physiological state the desire to urinate is felt only under the influence of tension of the vesical walls. 2. Contraction of the vesical muscle precedes immediately the manifestation of this desire, which is perceived only when this contraction is carried to a certain degree. 3. The desire to micturate does not depend upon the action of a sort of elective sensibility, having a special centre in a determined point of the mucous membrane of the neck or body of the bladder; this sensation is situated in all parts of the organ.

In the normal bladder, says Guyon, sensation or contact is *nil* or obtuse. There is no sensibility to liquids that are unirritating; for solid bodies sensation is obtuse. Whatever be the position of the subject of the experiment, and whatever the movements of the body, the contact of the urine is never perceived. The same is true of warm water, boric acid solutions, and of weak solutions of nitrate of silver that do not cause immediate irritation. The subject of the experiment is never aware of the injection into the bladder of a

liquid at a temperature of about 18° C., but can distinguish between hot and cold fluids, and irritating fluids; the desire to urinate immediately succeeds this sensation. The interval separating the contact-sensation from the desire to urinate is proportional to the degree of the sensation. When a tepid liquid is injected to the degree of tension, the desire to urinate occurs. Supple instruments introduced into the bladder cause no sensation except in the urethra; nor do the extremities of bougies and sounds cause sensation in the bladder. Rigid instruments cause an obtuse sensation, which sometimes appears to be more pronounced near the neck, but does not cause desire to urinate. This desire is felt only secondarily, and is caused by repetition of the contact, sometimes by reason of its prolongation *in situ* or under stronger pressure—but especially on repetition, or by successive excitations. These experimental results are seen in practice. The normal bladder is indifferent or but slightly sensitive to contact. It invariably responds to tension by creating the desire to urinate. The bladder has not what may be called an anatomical capacity, but a physiological capacity—a capacity proportional to its sensibility—this capacity being variable, even in the normal state, and regulated by diverse conditions, physical or psychic. It is not the quantity of liquid that the surgeon introduces, but the reaction it determines that awakens the sensibility of the bladder. Anæsthesia shows the difference between contact-sensation and tension-sensation; under anæsthesia the first is abolished, but the latter remains.

It may be regarded as an established fact, says Guyon that tension is followed immediately by contraction, and this by the desire to urinate. A certain degree of tension may create the desire; but if the liquid be left in the bladder the desire ceases. A little more liquid may be injected now, when the desire again occurs, and again ceases. The surgeon may utilize this cessation of contraction to increase gradually the quantity of liquid introduced, if, as in a case of suprapubic cystotomy, he desires to distend the bladder.

It is a well-known that Küss and Duval are of the opinion that the desire to micturate is created by the flowing of a small quantity of urine into the deep portion of the urethra, and thier theory is generally accepted. Guyon claims that this portion of the urethra is insensible to the contact

of liquids. The first portion of this region, he says, is very sensitive; the second, or prostatic portion, is moderately sensitive to contact. Active pressure upon the membranous portion, repeated contacts, and faradization, when made from without inwards or *vice versa*, never create the desire to urinate; at the entrance to the bladder these manœuvres create the desire in some subjects. But this desire, always transient, becomes definite only when an instrument, carried into the bladder, is brought into repeated contact with the body of the organ. Hence, says Guyon, it is excitation of the urethral face and of the ring of the neck, not of its vesical face that causes a *transient* desire. Pressure *en masse* of the region of the neck produces the same effect. The neck of the bladder and the adjoining portion of the urethra have then, in the physiological state, less sensibility than the body of the bladder; and they are insensible to the contact of liquids.

In the pathological state the sensibility of the bladder is characterized by exalted sensitiveness to tension, and by more or less acuteness of sensibility to contact. Lively sensibility to contact, says Guyon, constitutes a pathological state. For diagnostic purposes it is very important to determine the degree and localizations of this morbid sensibility. The effects of distension in the physiological state are redoubled in the pathological state. The pain caused by exaggerated tension is hurtful to the bladder in the pathological state, and exercises a reflex action on the kidneys. In the pathological state, therefore, all tension and distension of the bladder should be carefully avoided. In painful states of the bladder Guyon has substituted instillations for injections, when it is necessary to use a moderately irritating liquid. He believes that in operations the object of which is to combat a grave painful state, section of the bladder itself is preferable to section of its neck, since he believes that in painful states of the bladder what has been supposed to be a contraction of the neck is really a contraction of the body of the organ.

FAITH-CURE IN THE COURTS.—At a recent trial of two "faith-cure apostles" in Sioux City, Iowa, for practicing medicine without a license, the Judge instructed the jury to find for the defendants, since under the laws of Iowa it was no crime for a person to pray for his afflicted neighbor.

THE UNION OF MEDICAL SCHOOL AND UNIVERSITY.

"Some of the advantages of the Union of Medical School and University" was the subject of an address delivered at Yale University last June, by Professor WILLIAM H. WELCH, of Johns Hopkins University. It is a hopeful and gratifying circumstance, says Dr. Welch, that within the last few years universities in this country and in England have shown an awakened and enlightened interest in the advancement of medical science and the promotion of higher medical education. Among the most notable evidences of this interest is the recent organization at the great universities of Cambridge and of Oxford of medical departments, not as detached schools, but as integral and coördinate parts of the universities. The vivifying influence of this intimate connection has been made manifest by zeal for research, equipment of laboratories, improved methods of instruction, and a more orderly and systematic scheme of study.

In Dr. Welch's opinion the union of the medical school and university will be a step in the direction of higher medical education. "The assumption by independent schools of medicine of the power of granting the doctor's degree, without any control from a university or from the State, is a main reason in this country for the lack of uniformity in medical education, for the enormous number of medical schools beyond all necessities of the community, for the ease with which medical degrees can be obtained, and for the consequent degradation in the significance and the value of the degree of doctor of medicine."

Of the 92 regular medical schools in the United States, 48 are medical departments of or affiliated with universities or academic colleges, and 44 are without such connection. Of the 13 Canadian schools, 12 have such connections, in all cases with universities, not colleges, and one is independent. Of the 48 American schools connected with academic schools, in about half the number of cases the academic connections are schools scarcely known beyond the boundaries of the States in which they are situated. In about the same number of cases, probably more, the medical colleges have such connection in name only, being in no way controlled by the regents of the universities or the trustees of the colleges. In one case a "university" has two separate and

distinct medical departments. The fertile American soil seems to be as productive of "universities" and "colleges" as of potatoes, and too often the greater attention is given to the proper planting and growth of the last-named.

While almost 50 per cent. of American medical schools have no academic connection, more than 90 per cent. of the Canadian schools have university connections; and the Canadian schools, as a class, rank with the less than half a dozen first-class American schools. Says Dr. Welch: "If we attempted to analyze the cause of German prominence in medical education, we should find that many causes combine to produce this result, but certainly not the least of these is the fact that medicine in Germany is taught only as a department in a university. Independent medical schools do not exist there. Something more than a feeling of piety for old forms has preserved the historic association of the medical with the other faculties. There is a conviction that the highest interests of medical education are best subserved by this association." Naturally we cannot expect to transfer the German university methods bodily to our soil, nor is such transference essential to a higher system of medical education. The school of physiology developed at Cambridge under Michael Foster is clearly traceable to academic influences, says Dr. Welch. It is of course possible that such results are attainable under favorable conditions, by independent medical schools; "but experience demonstrates that the highest development of medical education is attained to-day as it has been in the past, by the university system."

The mere formal connection of a medical school with a university is insufficient to bring about the results of which we speak. "There must be a union in spirit as well as in name. The influences of university methods and ideas must manifest themselves in the medical department, sympathetic relations must exist with other departments through the connecting link of all, the philosophical faculty, and the coöperation must be obtained of those physical and natural sciences, physics, chemistry, zoology, comparative anatomy, and botany, knowledge of which is essential to a complete medical education, and to scientific research in every branch of medicine."

What are the specific advantages that belong to the university system of medical education? The discussion of this question we must defer until a later date.

PROGRESS OF HIGHER GENERAL EDUCATION FOR MEDICAL MEN.

When, in 1859, the Chicago Medical College—Medical Department of the Northwestern University, was organized on the basis of three years of graded medical studies and a moderate standard of preliminary education for admission, it was comparatively rare to find, in the classes attending the medical colleges, especially in the newer States, regular graduates from universities, colleges or scientific schools.

The change that has taken place in this regard was well illustrated by an item in the public Commencement exercises of the above-named College on the 26th inst. Dr. Ephraim Ingals, one of the most enlightened and liberal members of the profession in this city not connected with any medical college, had instituted a prize of \$100, to be awarded the member of the graduating class who should attain the highest average standing in the three departments of literature, science, and medicine; the same to be determined by a competitive examination under the direction of a committee of the Faculty. A prize of \$50 was also offered by Dr. G. Wheeler Jones, of Danville, Ill., to the member of the class who should attain the next highest position as shown by the same examination. The Dean of the Faculty, in announcing the decision of the committee awarding these prizes and in presenting the graduating class to the President of the University, took occasion to remark that not only were all those who entered the prize contest graduates of literary colleges of high standing, but 18, or 40 per cent. of the whole graduating class, had been admitted to the medical college on diplomas from literary and scientific colleges, and of the remaining twenty-eight, all had pursued academic or collegiate studies from one to five years after leaving the ordinary public schools and before commencing medical studies. We hope the time will soon come when no person will be permitted to enter upon the study of medicine without presenting proof of a good literary and scientific education.

REGULATING THE SALE OF PROPRIETARY MEDICINES.

A bill has been introduced into the Ohio Legislature to prohibit the manufacture and sale of proprietary medicines in the State. Should the bill pass a fine of from \$500 to \$5,000 will be laid on

the manufacturer of such medicines, and their sale will be punished by a fine of from \$100 to \$300. In several other States than Ohio the question of the manufacture and sale of proprietary medicines is being agitated, and efforts being made to lessen the evils that undoubtedly arise from the indiscreet and indiscriminate use of the proprietary compounds that take up the larger part of the shelf-room in our drug-stores. Whether the bill before the Ohio Legislature is Constitutional or not we will not pretend to say. A less drastic measure, and one that, it appears, would meet with less opposition, would be the adoption of the French method of dealing with this question. There a "secret remedy" or proprietary medicine, before it is offered for sale, must be submitted to a Committee of the Académie de Médecine, which condemns the article, thus prohibiting its manufacture and sale, or approves of it and fixes the maximum price at which it may be sold. This Committee has the formula, and the method of preparation submitted to it, and the preparation is carefully investigated by an expert chemist. The New York *Commercial Advertiser* thinks that "if on every bottle of proprietary medicine offered for sale there should be a label giving a correct account of the substances contained in the compound, people would know what they were swallowing, and would swallow it at their own risk. The State has the right to require this, and the people could not quarrel with it." The State has undoubtedly the right to require this, but it is sheer nonsense to suppose that the people would then know what they were swallowing. And if people will swallow stuff in total ignorance of its composition, it is scarcely likely that what little knowledge they could gain from a label would exercise any influence.

EDITORIAL NOTES.

THE FORTIETH ANNUAL MEETING OF THE ASSOCIATION.—Both the preliminary programmes of many of the Sections already published and a recent letter from the Chairman of the Committee of Arrangements show that the preparations for the meeting at Newport are progressing in a most efficient and satisfactory manner. Not only the Rhode Island State Medical Society, but the profession in Boston and throughout the New Eng-

land States are affording gratifying indications of a warm interest in the coming meeting.

INDIANA STATE MEDICAL SOCIETY.—The Secretary of this Society, Dr. E. S. Elder, of Indianapolis, requests us to call special attention to the fact that the next annual meeting of that Society will be held commencing on *Wednesday*, May 1, 1889, a wrong date having been previously given.

DEATH AFTER VACCINATION.—In the *British Medical Journal* of March 9, 1889, the following case is cited: On September 24th the Public Vaccinator at Billesdon Union, near Leicester, vaccinated a little girl with humanized lymph in two places on the left arm. On the seventh day he visited her, finding the vaccine pustule well developed at each point, but broken and the lymph running down the arm, with an areola of redness around each, three-quarters of an inch in width. The next day the areola had assumed a more distinctly erysipelatous character. From this time it spread rapidly with much swelling; the hands and feet became densely œdematous; cellular abscesses formed near the elbow and in the back, and death ensued on November 19th following.

The origin of the vaccine lymph used was readily traced by Dr. Ballard, and found to have been free from contamination with the infection of erysipelas, but the house in which the child lived and its surroundings were in a very filthy and unsanitary condition. To these local conditions, Dr. Ballard attributed the unfortunate result. The responsibility for the death, was, therefore, properly attributed to the neglect of duty on the part of the local Sanitary Board.

DR. JEROME COCHRAN, State Health Officer of Alabama, has written an open letter to the Birmingham *Age-Herald* on the subject of yellow-fever disinfection, and in regard to the bitter and ungenerous manner in which he was denounced when he said that one of his patients in Decatur, last year had died of yellow fever. Dr. Cochran says: "It is argued that Decatur ought to be disinfected as a matter of policy, to quiet the apprehension of the people and adjacent States. It is precisely this spirit of apprehension, and the spirit of panic that follows in its train, and which is mischievous beyond power of words to give expression to, that stands in need of rebuke. Let

the people be taught again a great lesson. Let them learn that all the artificial means of disinfection that have so far been employed against yellow fever have proved to be comparative failures, while the great disinfectant which Nature sends to our aid—the beneficent frost of our winters—has never been known to fail." It is a matter of great doubt whether sanitarians will agree with him that artificial means of disinfection against yellow fever have proved to be comparative failures. If frost alone is to be depended upon there seems to be no hope for Cuba.

DR. KEI OKAMI, of Japan, and DR. SUSAN LA FLESCHÉ, of Nebraska, are among the recent graduates of the Woman's Medical College of Pennsylvania. The former is the first Japanese woman, and the latter the first Indian woman to study medicine. Dr. La Flesché was an Indian girl, who learned the English language at a reservation school, and completed her studies at the Indian School at Hampton, Va.

MEDICAL LEGISLATION.—Oregon and Montana Territory now have acts regulating the practice of medicine. The Oregon act, which is now a law, requires all practitioners to "possess a diploma of graduation, or a certificate from the board of medical examiners," according to the Albany (Oregon) *Herald*. In Montana, says the Bozeman *Chronicle*, the bill "requires the examination of all physicians in the Territory." We have no more explicit information than the above.

MEDICAL LEGISLATION IN TENNESSEE.—We learn that there is before the Legislature a bill to regulate the practice of medicine in the State of Tennessee. The bill is very stringent in its provisions, and traveling doctors or peddlers of drug nostrums or patent medicines are required by its terms to pay \$100 a month to the State. It provides for a State Board of Medical Examiners, who shall issue certificates or licenses to practice, either upon examination or upon proof that the applicant was a practicing physician prior to the passage of the act. These certificates shall be recorded in the office of the county court clerk. Practicing medicine without such a certificate shall subject the offender to a fine of \$100 for the first offense, and \$200 for each subsequent offense. The same penalty is attached to "any itinerant vendor of any drug, nostrum, ointment or applica-

tion of any kind intended for the treatment of disease or injury, or who may by writing, printing or other methods, profess to cure or treat disease or deformity by any drug, nostrum, manipulation or other expedient," who does not pay to the Board of Examiners \$100 a month for such privileges.

THE LATE OUTBREAK OF SMALL-POX IN MINNEAPOLIS, it appears, was very summarily and successfully dealt with by Health Officer Kilvington. As soon as a case was announced, a consultation was called to determine if the disease was small-pox. That being settled, the patient was removed to the quarantine hospital for treatment. The house where he lived was quarantined, and all the people directly exposed were confined in it. Dr. Kilvington's assistants then began to look up all people indirectly exposed, and vaccinated them. Quarantine houses had guards stationed about them, who allowed no one to go in or out during the season of quarantine. The quarantine people were vaccinated, and during the time until it could be determined whether the vaccination would take, they were supplied with food. When the vaccination took, the person under quarantine was bathed, given new clothing in place of the old, which was burned, and he was then discharged. When a house had been emptied of people under quarantine, the bedding and curtains were burned, sulphur burned in all the rooms, and the walls sprayed with corrosive sublimate. None of the inspectors or guards were allowed to enter any of the houses under quarantine, when there was danger, and the doctors that did the vaccinating saturated their clothing with the corrosive sublimate before and after entering a house where there had been small-pox. The clothing and bedding were either paid for at a reasonable price by the board of health, or were replaced by new articles. In one of the houses quarantined, there were 31 laboring men, who were inclined to object to the rules of quarantine. One escaped, but he was taken back when found, and a guard, with a rifle and instructions to shoot, should he attempt to escape, was put over him. Since January 13, 6,000 people have been vaccinated, and the schools, public and private, have been systematically visited, and unvaccinated children vaccinated.

FATAL RESULTS FROM SANTONIN.—The newspapers contain the report of two cases of death from santonin, given as a vermifuge to a little boy aged 3 and a girl aged 5 years. It appears that both deaths occurred within a few hours after the medicine was given. Santonin was administered also to a girl of 9 years, of the same family, and she was made dangerously ill.

REGISTRATION OF BIRTHS.—DR. C. A. LINDSEY, of New Haven, Secretary of the Connecticut State Board of Health, and Superintendent of Registration of Vital Statistics, has sent circulars to the physicians in the State calling attention to the law in regard to the prompt return of births, and to the fine provided for failure to make such returns. He has also sent the circular to every registrar in the State, with a request to make note of physicians neglecting to make returns. It is said that the law is disregarded to a disgraceful extent, and the State Board of Health proposes to make an effort hereafter to secure the monthly returns called for by the law. Every physician recognizing the importance of having birth statistics accurately recorded, should cheerfully and promptly comply with the law.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held in Newport, R. I., June 25, 26, 27 and 28, 1889.

SECTION ON OPHTHALMOLOGY.

Papers have been positively promised by the following members:

Dr. Robert Tilley, Chicago, Ill.
 Dr. E. J. Gardiner, Chicago, Ill.
 Dr. S. S. Bishop, Chicago, Ill.
 Dr. F. C. Hotz, Chicago, Ill.
 Dr. H. Gifford, Omaha, Neb.
 Dr. J. F. Fulton, St. Paul, Minn.
 Dr. J. J. Chisolm, Baltimore, Md.
 Dr. J. L. Thompson, Indianapolis, Ind.
 Dr. A. E. Prince, Jacksonville, Ill.
 Dr. LeRoy Dibble, Kansas City, Mo.
 Dr. J. H. Thompson, Kansas City, Mo.
 Dr. A. R. Baker, Cleveland, Ohio.
 Dr. Dudley S. Reynolds, Louisville, Ky.
 Dr. Robert Sattler, Cincinnati, Ohio.
 Dr. C. M. Hobby, Iowa City, Iowa.
 Dr. J. W. Wright, Columbus, Ohio.
 Dr. F. B. Tiffany, Kansas City, Mo.

Dr. R. L. Thompson, St. Louis, Mo.
 Dr. P. D. Keyser, Philadelphia, Pa.
 Dr. W. G. Edwards, Nashville, Tenn.
 Dr. A. W. Calhoun, Atlanta, Ga.
 Dr. H. W. Williams, Boston, Mass.

Some of the above named authors have given in the titles of their respective papers. Those who have not should do so at once that the title of each paper may be published in connection with the name of its author.

Shall we have a short-hand reporter to take down all discussions? Or will members who discuss papers take the pains afterwards to write out what they may have said? Discussions ought to be published in connection with every paper, so that the different views entertained upon the subject of which it treats may be presented to the reader. Will *all* who are members of this Section please write the President or Secretary their wish on this point?

G. E. FROTHINGHAM, President,
 Ann Arbor, Mich.

G. C. SAVAGE, Secretary,
 Nashville, Tenn.

PRELIMINARY PROGRAMME OF THE SECTION ON MEDICAL JURISPRUDENCE.

All members desiring to contribute papers to this Section are requested to correspond with its officers.

First Day.—"History of Medical Jurisprudence," by Judge Amos G. Hull, of New York.

Second Day.—"Tests of Insanity," by H. N. Moyer, M.D., of Chicago.

"Monomania," by Clark Bell, Esq., of New York.

"Legal Decisions on Insanity"—Chairman's Address, by Jas. G. Kiernan, M.D., Chicago.

"Massachusetts Insanity Laws," by T. W. Fisher, M.D., of Boston.

"Illinois Insanity Laws," by Harriet C. B. Alexander, M.D., of Chicago.

Third Day.—"Legal Aspects of Inebriety," by T. L. Wright, M.D., of Bellefontaine, Ohio.

"Inebriate Criminals," by T. D. Crothers, M.D., of Hartford, Conn.

"Social Aspects of Alcoholism," by E. C. Spitzka, M.D., of New York.

Fourth Day.—"Spinal Concussion," by S. V. Clevenger, M.D., of Chicago.

JAS. G. KIERNAN, M.D., Chairman,
 Central Music Hall, Chicago.

S. C. EVANS, M.D., Sec'y., Baltimore, Md.

The names and addresses of Section Officers and other officers of the Association are printed on advertising page 25.

Special Attention is called to the following Rules of the Association:

It shall be the duty of every member of the Association who proposes to present a paper or

report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Association, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the

American Medical Association on the day of 18 .'' (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Stated Meeting, Thursday, February 7, 1889.

THEOPHILUS PARVIN, M.D., IN THE CHAIR.

DR. LONGAKER reported a case of

PLACENTA PRÆVIA.

The features of interest in this case are: *a.* Hæmorrhage at the seventh month in P. P. Lateralis. *b.* The patient was in a septic condition when first seen, a week after commencement of hæmorrhage. She was also very anæmic. *c.* Turning by the bi-polar method was at once done, and a living seven months' fœtus was born. *d.* The patient made an excellent recovery, and was sitting up in two weeks. *e.* The surface of the placenta showed traces of fatty degeneration. It contained a clot the size of a walnut and several days old. Placenta prævia occurred at her last confinement, three years ago, and she came near losing her life from hæmorrhage both before and during labor.

Case of Diseased Placenta, Anasarca of Fœtus and Hydræmnion.—Mrs. Z., æt. 28. Second ipara at seventh month of pregnancy. Her first child lived but a short time. The amniotic fluid was in excess, and child and placenta weighed 5³/₄ pounds. About one-third of the placenta was the seat of a well-marked change. There are foci, cheesy in the centre, gradually passing into apparently healthy tissue. These were more or less continued, involving a V-shaped segment. The abdomen of the child was so distended as to cause a slight obstacle to its delivery. Œdema of the extremities was slight. Both the pleura and pericardium were distended. The greater part of both lungs was solid, and on section a purulent fluid exuded from the cut surface. The child's extremities were rigid and flexed. It had been dead but a short time. Careful auscultation had, however, failed to detect fœtal heart sounds during labor.

DR. HOFFMAN reported a case of

PYOSALPINX.

I shall go into the history of this case with rather more attention to detail than would be

warranted, were it not for some features of previous history and treatment, which render it in some respects more than ordinarily instructive.

Mrs. G., æt. 28, came to me for examination in August, 1888. Her history at the time was unsatisfactory, giving simply record of a discharge for a long while, and great pelvic pain, especially on the right side. A miscarriage was admitted. Examination showed a painful mass, bound down to the right cornu uteri, so tender that exact mapping out was impossible. I doubt, however, whether even under an anæsthetic an accurate diagnosis could have been made of the condition as revealed by operation, owing to the involvement of intestine. Intestinal adhesions always increase the size of ovarian and tubal tumor, rendering the decision of absolute extent impossible. The left side also was evidently involved, but was not so painful as the right. I made no great effort to determine the extent or nature of this involvement, inasmuch as her condition was evidently one for operation, as I told her, saying at the same time that treatment would be entirely useless. She left my office crying and I saw no more of her until two days before operation, December 18, 1888. I then ascertained that after seeing me she had gone to four other physicians, one whose diagnosis was uterine displacement, and whose treatment was the introduction of a pessary, strangely enough with the result of apparent relief. She then visited the clinic of the Woman's Hospital, and was comforted with the assurance that there was nothing the matter with her and that she should go home and have a baby. She received like advice at the University. An up-town specialist, into whose hospital she afterwards went, with the intention of operation "for a ruptured blood-vessel," the then diagnosis, told her there was no necessity for operation, advising her that she was wise not to have submitted to it at my hands, promising her at the same time that she should have a baby, and to promote this end, the uterus was curetted. Time wearing on, she again visited her last adviser, who now made the diagnosis of a ruptured blood-vessel, and advised operation for its "tying." At this juncture she again fell into my hands, much reduced from excessive hæmorrhage for three weeks. I did not examine her, but urged immediate operation, to which she consented. Two days later abdominal section was done. Assisted by Dr. J. Price, the right side was first explored and the ovary and tube found everywhere densely adherent. Enucleation was accomplished with much difficulty, and when attempt was made to apply the ligature, the tissues were found so rotten that the blood-vessels alone withstood the tension of the silk. The right cornu uteri was so involved that it was simply a mass of abscess tissue, and had to be curetted in order to free it from the necrosed portions. The bleeding was now so profuse that

the application of a new ligature was necessary. The second ligature was wholly about uterine tissue. The left side was then examined and found even more extensively involved than the right, but without the presence of pus. The adhesions were more dense, but the tissues not being necrosed, there was no difficulty in obtaining a good pedicle. The involvement of the intestines was so great that I fully expected a fæcal fistula to result, in spite of careful suturing. The right tube contained pure pus. A drainage-tube was introduced and kept in the incision a little more than a week. The only complication was severe inflammation of the bladder, and phlebitis of left internal saphenous vein. The patient is at present moving about her room.

The history of her trouble, since obtained, is interesting. She was married at 16. Six weeks after her marriage her husband deserted her. Her baby lived seven months, going blind some time before its death, having sores and becoming very emaciated. At this time she began to have a bad discharge, which inflamed her private parts, which were also much swollen. Had great pain on urination. She did not have intercourse for twelve months after the birth of her baby. She then contracted an alliance with another man, and afterwards within three years had two miscarriages, and a still birth at eight months. Her hair has fallen out, but aside from this she has had no other sign of syphilis. The question here arises, what was the origin of the pelvic trouble? Was it gonorrhœa, syphilis, abortion, or the after-effects of labor? That there are chances for believing, according to the various aspects of the case, that perhaps one, then the other of all these agencies, entered into the causation of the disease, will, I believe, be not disputed. Whether or not it is so conceded, matters very little, however, so far as this case is concerned. That all these factors may bring all the various forms of pelvic disease cannot be rationally disputed. That we can dogmatically affirm that any pelvic lesion is brought about by any one of these causes, with the exception of gonorrhœa, as proved by the presence of the gonococcus, is not to be for a moment entertained. The fact is, we can have the symptoms of pyosalpinx simulated in all its essentials by an entirely different condition, to-wit: tubercular disease of the appendages. To consider the relative frequency of each of these factors in the production of pelvic disease, it is not my purpose, but it requires more than the dogmatic assertion of any operator to prove that this, that or the other cause is always at the bottom of the lesion. But while the etiology of the trouble may be obscure, in a well-defined lesion like the one under observation, the diagnosis ought, in most instances, to be made, or if it cannot, the question concerning it should be gone over, chances for error discussed, and once for all have

it confessed that the subject of pus-tubes and ovaries is not too hackneyed for consideration before a Society such as this. We read of the infallible bi-manual examination, which is able to pick up a Fallopian tube or distinguish varicose veins in the broad ligament, and then suddenly are confronted by failures such as I have here recorded. The fact stands out that the diagnosis insisted upon, by the men who are accustomed to "claim everything," is a myth, and as Mr. Tait says, fit only for library papers. It is incredible that the diagnostician who can recognize, map out and differentiate the Fallopian tubes, should fail to recognize a mass the size of a small fist. Let us by all means have diagnosis, but let it be *diagnosis*, not myth. In this case the diagnosis, promises and treatment well nigh lost the woman her life. She wanted a baby and she was promised one. She nursed the delusion for three months. Promises may hold patients, they do not work cures, nor save reputable medicine the slur and suspicion of quackery. I believe in the present case that the curetting was directly responsible for the involvement of the uterine tissues. In the presence of tubal disease there is no excuse or palliation for the use of the curette. I believe that the so-called operation of "dilating and scraping" is responsible for much tubal and ovarian trouble that would otherwise remain quiescent. I have now a case under observation where this procedure was resorted to, without relief; then electricity was tried, and to-day the patient is worse than ever, with operation her only relief.

DR. HORATIO R. BIGELOW read, through the Secretary, a paper on

APOSTOLI'S PLACE IN GYNECOLOGY.

After some complimentary remarks on Apostoli himself Dr. Bigelow went on to discuss the armamentarium necessary for carrying out the electrical treatment. He thought it necessary to have a galvanic battery, a faradic battery, a collector, a galvanometer, intra-uterine electrodes for both currents, and one for carrying both the positive and negative of the induced current within the uterus; bulbous charcoal-pointed electrodes of various sizes for galvano-caustic applications, intra-uterine platinum electrodes, and large bulbous vaginal and rectal electrodes. The belly-plate could be made of potter's clay, in which the metal plate could be buried, or better is the plate devised by Martin, of Chicago. A good galvanic battery should have a slight chemical action and great constancy. The Léclanché cells or those of Daniell he thought the best. With 36 Léclanché cells, without a rheostat, a strength of from 300 to 350 milliamperes can be gotten. He thought that the collector was invaluable, and that to measure the dosage exactly was an absolute prerequisite of success. The best galvanometer was

that made by Gaiffe. The best faradic battery that of Gaiffe, with a chloride of silver pill, and the induced currents of high tension from the long thin wire was the one to be generally used within the uterus.

"The induced current penetrates the tissue profoundly by reason of its high tension, but, contrary to physical laws, the continuous current of low tension has a longer and more profound action. We have proved the diffusion of the electric currents, and that the galvanic current propels itself through organic tissues, its influence being felt at remote points, the current *never remains limited between the two poles*" (Omninus). "If we now consider the difference that exists between continuous and induced currents during their constant passage we find that it is not difficult to distinguish between them, as the line of demarcation is clear. The induced current acts for an exceedingly short time during its passage. It produces at each instant of passage a greater or less excitation and causes molecular shock. The induced current acts mechanically as an excitant, but the continuous current penetrates more gradually the tissues, but more profoundly, acting chemically in such a way as to produce molecular orientation and chemical combination" (Omninus). The induced current traversing the liquid, semi-liquid, or solid substances that go to form the human body, produces no chemical action whatever, simply a mechanical molecular disturbance. The continuous current, however, not only produces its chemical action at the poles, but this molecular disintegration and orientation is propagated throughout the zone between the poles. Just what the galvano-caustic action is that dissipates a tumor is not yet known—whether it coagulates the albuminoids or creates interstitial inflammation, he does not know. *It does reduce the tumor* and it remains for us to find out the *why?* He believed that time would demonstrate a change of *cell life* in addition to the purely chemical action, which takes place around the poles. In Apostoli's clinic the induced current is not often used. It has a wondrous effect, however, upon the ovarian pain in hysterical women. Dr. B. has now seen 20 cases of this kind and every woman received immediate relief after a séance of ten to fifteen minutes. He has seen a large number of bleeding fibroids, but has, as yet, to see one that failed to respond immediately to the continuous current, the positive pole being within the uterus. Apostoli often carries the current up to 350 milliamperes without any discomfort to the patient. It is most important that every part of the lining membrane of the uterus should be treated, and every hæmorrhage, no matter how severe it may be will resist. Dr. B. affirmed that the treatment would very appreciably diminish the size of fibroids and at times entirely dissipate them. He quoted cases to prove this point. Punctures were

made into the tumors to the depth of from 1-3 centimetres, with a lance-pointed steel needle, the galvano-negative caustic being used, usually. Everything was religiously clean and antiseptic. None of the patients had any bad symptoms. He affirms that Apostoli's method arrests hæmorrhage, diminishes size, relieves pain and improves nutrition, without endangering life, better and more surely than any other method, and asks, why then resort to Tait's operation of excision of the appendages? The catarrhal forms of salpingitis yield kindly to the simple action of the continuous current, one pole in the uterus. Dr. B. is not yet ready to offer any decided opinion in regard to pyo-salpingitis. He however cited several cases where negative punctures of the tube relieved or cured the cases. In metritis the galvanic or faradic current should be used as one or the other agrees with the patient. Apostoli says that "this treatment applied according to his double or bi-polar method is an excellent and sometimes sovereign remedy in certain cases (recent subinvolution, chronic metritis in its first stage), inefficacious or at least very insufficient in others (such as chronic metritis in its latter stages), and endometritis in any form." In endometritis the continuous current and the positive pole within the uterus are used. He cited some cases of fungoid endo-metritis which had been cured. Dr. Apostoli faradized every woman, even when under an acute attack, who was suffering from peri-uterine inflammations, observing certain rules which he has laid down. In the sub-acute stage he uses, first, bi-uterine faradization, with a current of tension when the inflammation begins to give way he used the intra-uterine continuous current, beginning first with the positive pole and following with the negative as as soon as he is sure the patient can bear it. In the chronic stage use the continuous current and galvano-puncture (negative), making the puncture in the diseased part itself. In old cases of perimetritis, with much tenderness around the utero-sacral ligaments, much relief may be obtained by the vaginal electrode in the posterior fornix, while the negative pole is in the abdomen, using the induced current of high tension.

DR. JOSEPH PRICE reported

A YEAR'S WORK IN A MATERNITY HOSPITAL.

In making this report I desire briefly to call attention to the amount of work done, the routine treatment of patients, and a few alterations which have taken place in the building. During the year 1888 there were 184 deliveries in the Retreat. Of these patients 69 were primiparas. There were 186 children born, including two sets of twins, 9 of these infants were stillborn, 102 were males, 84 were females. There were 13 forceps deliveries. Labor was induced in 2 cases in the eighth month. In 1 case a contracted pelvis and

in one the presence of a large uterine tumor. There have been no deaths of mothers in the Retreat for a period of nearly five years, furnishing a series of 540 deliveries without a death, the last death being from puerperal convulsions in a patient suffering from chronic Bright's disease, and who had had convulsions in five previous labors. Since this death there has not been a case of puerperal septicæmia in the institution. The great success attending the work of this Maternity is due to the strict enforcement of the law of cleanliness. Everything and everybody in the house is clean and jealously kept so. This system was enforced by Dr. Goodell, and has been carried out on the lines laid down by him. The routine treatment of patients is as follows: the patient on entering the house is given a hot soap bath, dressed in clean underclothing, and given a clean bed in the waiting ward. If necessary, a laxative is given and the bowels kept soluble during her waiting period. Thereafter, until her confinement, she is obliged to take at least two hot soap baths per week and to wear clean clothes. She is allowed to do such light work about the house as the physician may deem advisable, and is encouraged to take as much open-air exercise as circumstances will permit. Every effort is made by the officers and employes of the institution to make it as cheerful and homelike as possible. When ready for the delivery room the patient is again given a hot soap bath and an enema and a vaginal injection of 1 to 2000 bichloride of mercury solution. She is clothed in a clean night-robe and drawers and placed upon a new clean delivery bed. Scrupulous cleanliness is observed in all manipulations of the patient, and after delivery a second vaginal injection is given, and a vaginal suppository of iodoform is introduced. The patient's person is carefully cleaned and all soiled clothing removed, the binder applied, a clean set of night clothes put on and the patient placed in a new clean bed in the ward. All of the soiled articles are immediately removed from the delivery room and a new bed made up for the next patient. The patients in the ward are carefully observed by the nurses, but no unnecessary handling or interference indulged in. The patients remain in the ward until they are able to be up, when they are removed to the convalescent ward. As the ward is emptied, the beds are burned and all the bedding most carefully cleansed. No soiled linen (as draw-sheets, diapers, napkins or other articles of clothing) is allowed to remain in the ward, but when soiled is immediately placed in a covered receptacle and removed from the ward and building. No sponges, wash-rags or absorbent cotton are used in the house. Corrosive jute supplies the place of these articles, being clean, soft, remarkably absorbent and cheap; it is destroyed immediately after use. The pads used to absorb

the lochia are also composed of jute and are likewise destroyed after use. The beds in the wards are of new straw. All discharges from the delivery room are immediately burned. All bedding soiled beyond cleansing or contaminated by purulent or specific discharges is likewise burned. In short, every effort is made to keep the house perfectly pure and sweet. The arrangement of the house permits of rotation in the use of the wards, so that a ward, once emptied, is not again used until three others have been filled. In the meantime it is most carefully and scrupulously cleaned and thrown open to the atmosphere. A similar system is pursued in the convalescent wards and delivery room. A few alterations in the building have very markedly increased the effectiveness of the institution and the comfort of its inmates. In the first place, the bath-room and water-closets have been removed from the building proper and placed in the towers in the rear. The plumbing is as near perfect as modern sanitary science can make it. The verandas have been enclosed in glass, forming large, light, airy corridors about the rear of the building, and furnishing a distinct circulating atmosphere between the house proper and the wards and the water-closets. The ventilation of the entire building is simply perfect. The capacity of the house at present is about fifty patients per month, and, when a few contemplated changes are made, the capacity will be doubled and the institution rendered as nearly an ideal maternity hospital as is practicable.

DR. WM. GOODELL said it had always been a matter of great regret to him that he did not adopt this system a year or a year and a half before he did. He supposed it was partly due to the conservatism of old age and partly to a series of some forty deaths from bichl. poisoning he had collected. Tarnier's reports of the results following the use of this agent so impressed him, that he was led to make the change. Before he adopted the system which has just been detailed by Dr. Price, he had once as many as five deaths in about 150 cases, four of these due to septicæmia. Latterly hardly a year would elapse without the occurrence of one or two deaths. When he first started everything about the institution was new and clean, and for several years he had the best record of any maternity hospital in the world. After the building and articles had become old, deaths began to occur. He tried carbolic acid, but it proved of little value. After beginning the use of corrosive sublimate injections, iodoform suppositories and antiseptic pads, he did not have a death from septicæmia. The only death was one from Bright's disease of the kidneys. During this time he had been consulted perhaps a dozen times in the course of a year to see women dying from puerperal septicæmia. He thought that, in private practice, it would not be needful

to follow out so strictly the details of the method as it is practiced at the Preston Retreat. For instance, the antiseptic pad and the iodoform suppositories might be done away with. He believed, however, that every practitioner should syringe out the vagina both before the birth of the child and after complete delivery, with a bichloride solution of 1-2,000. The hands should also be disinfected. He was called in consultation by a physician in the country who had had four or five deaths from sepsis in a short time. I found he been treating a case of phlegmonous erysipelas. He knew of another physician who had lost, he thought, seven cases—certainly five, from dressing a sloughing case of erysipelas. Antiseptic measures would probably have saved all these cases.

DR. HENRY LEAMAN would call the attention of those who have the opportunity of observing the physiological processes of labor to one point, viz.: presentation. It is very difficult to accurately determine the presentation, particularly of the face, brow, and posterior presentations. These observations should be verified by examination of the abdomen previous to labor and the location of the foetal heart sounds. They should also be confirmed by observation of the position of the head in the act of delivery. A mistake is readily made in posterior presentation. Posterior presentations are, he thinks, more common than we are in the habit of considering them. His object in speaking was to say that every case of labor was a case for the minutest observation. There was another point which he thought should be observed, that was the hour of the day at which labor occurs. There is, he thought, probably some connection between arterial pressure and the time of delivery. In recording the hour there would be an allowance to be observed in cases where the forceps were used. There was another point not mentioned, and that was the position of the succedaneum and its extent. These have to do with the natural process of labor and aid in determining the presentation.

DR. J. PRICE said he was as anxious about a labor as he was about a section, when he read reports of maternity hospitals with a mortality of from 2 to 27 per cent. This troubled him not a little now that he controlled a large maternity hospital, one in which Dr. Goodell had left a record of 275 cases without a death. He sees a labor case as frequently as he does a drainage after abdominal section. When this hospital was new, Dr. Goodell had a run of 250 cases without a death from any cause. This was the longest run of any institution at that time. After this deaths began to occur. Later he adopted the gospel of cleanliness, and with what results he has just told you; the results are now precisely the same as he left them. In regard to Dr. Hirst's question as to whether the same results might not be obtained by simpler methods, Dr. Price said

that they did not differ much in regard to the use of solutions and that portion of the treatment. The toilet of the house was perhaps just as systematically carried out at the Philadelphia Hospital as at other institutions. The pad which he had shown would hold a pint of fluid. It saved an immense amount of laundry work. It was now coming into use as a menstrual pad and was very convenient for ladies traveling. In private practice the mortality was greater among the rich than the poor. Among the poor he had had 700 deliveries without a death. He thought the difference was in the water-closets which the better classes had in their houses. The mortality throughout the country was large. In a small town in Ohio, with a high elevation and beautifully located, he had recently known of two deaths from septicaemia. Last summer he had been called to see puerperal cases nine times, and all died.

Gynæcological Society of Boston.

Annual Meeting, Thursday, January 10, 1889.

THE PRESIDENT, HORACE C. WHITE, M.D.,
IN THE CHAIR.

Dr. John H. Mackie, of New Bedford, was elected to Corresponding Membership.

PATHOLOGICAL SPECIMENS.

DR. A. L. NORRIS presented a *tumor of the breast*, which he had removed from a woman, æt. 53 years. It had been three months forming, was extra-mammary, and of the size of a goose egg. Blood had oozed from the nipple, which contained broken-down blood-cells and cancer-cells. The axillary glands were not involved. The entire mass was removed. It was a schirrus which Dr. N. had never before seen as extra-mammary. The entire gland was also removed.

DR. F. L. BURT reported a case of *fibroid complicated with hydro-salpinx*, and exhibited the specimens. The patient had been under treatment about a year. There had been troublesome hæmorrhages. Laparotomy was performed for the removal of the diseased tube and ovary, and for hastening the menopause. Glass drainage tubes were used. The patient made a good recovery.

DR. E. C. KELLER reported a case which had been under observation since last August. The patient had been treated for localized peritonitis. Severe pain at first was one of the leading features of the case. On the 27th of December the patient had a severe attack of flooding, was blanched and fainted. On January 3, laparotomy was performed. There was a cyst near the left broad ligament. The ovary of that side was filled with blood. The hæmorrhage was from the Fallopian tube. The case appeared to be a

hæmato-salpinx. In reply to inquiry from Dr. Stevens, whether the tube was ruptured, Dr. Keller said the tube was not ruptured, and that the hæmorrhage must have come from a ruptured vessel. The original clot where the hæmorrhage first began was plainly visible in the specimen as exhibited by Dr. Keller.

DR. HENRY O. MARCY exhibited a *dermoid cyst, weighing about ten pounds*, which he had removed from a woman about 35 years old; was assisted in the operation by Drs. Nelson and Cole. The abdomen was nearly the usual size at term. She had been under the care of two physicians who were so assured of pregnancy, that she had prepared the wardrobe for the expected infant. The diagnosis was doubtful, but the uterus, about three inches deep, could be differentiated from the tumor which was semi-solid. The tumor was removed with extreme difficulty, as it was more solid than fluid. The broad ligament was sewed off with the double stitch. The left tube was dilated with fluid to the size of a large sausage and the ovary was diseased. They were removed. The dermoid tumor was full of bony points, and had many cysts filled with colloid material. Patient made a good recovery.

Dr. Marcy also showed the *ovaries and tubes* which he had removed from a woman, æt. 30 years. She was very weak and hysterical, suffered great pain at her menses, and had been an invalid for six or seven years. The pain at the menses was such that she took morphine subcutaneously every two hours until a grain had been used.

Dr. Marcy further exhibited an *extra-mammary tumor of the left breast*, which he had removed from a widow, æt. 43, who had never been pregnant. There was no history of injury. It began a year ago as a small nodule to the left of the nipple. It is now double-fist size. There was no glandular enlargement in the axilla. Histologically, the tumor is a myxoma, the first case he had ever seen. It was behind the gland and was firmly attached to the pectoral muscle.

EXHIBITION OF NEW INSTRUMENTS.

DR. GEORGE W. JONES exhibited an *Improved Gynæcic Harness for the Retention of the Patient during Gynæcic or Rectal Operations*. Doubtless it will be conceded by most of you, who have had experience in these operations, that the most convenient position in which to place the patient for operation, is the dorsal; for in that position, the uterus and other organs are in the most normal position. Under these circumstances, however, you have also realized that the legs and feet of the patient must be taken care of and held out of the way, in order that the operator may do with facility and comfort whatever his hands find to do. To accomplish this and attend to the ether, at least three or four competent assistants are required; and such an array of heartless doctors

before a timid patient, is many times trying to her nerves, and sometimes may be detrimental to the successful performance of a simple operation. In order to be useful, an appliance must be simple at the same time that it supplies requisite qualifications. This harness fills the requirements mentioned. It consists of the following parts, viz., a yoke, made by a piece of brass tubing twelve inches long, into each end of which another piece twelve inches long and of smaller size, slides perfectly. These two smaller pieces are curved in the proper manner for one-half their length, and a hook is attached to the curved end. As these pieces slide into the larger tube, they are held by thumb-screws at any required distance. The rest of the apparatus consists of a stout piece of webbing with a ring attached to each end, to go around the neck of the patient. To this webbing are fastened two short pieces, which go under the axilla and fasten to the rings in the ends of the neckpiece, thus preventing it from slipping up. Through each of these rings also, a narrower piece of webbing slides freely, with a ring at each end to fasten to the yoke before described. In using this harness, the patient being in the dorsal position, the webbing should be adjusted to the shoulders, then with the legs flexed upon the abdomen, the yoke can be placed under the knees, and attached to the rings at each end of the tapes. These tapes may be shortened or lengthened at will while in use, or they can be removed entirely in an instant if necessary in case of accident. The whole apparatus can be boiled or rendered aseptic in any manner most desirable. It can be taken apart in a moment and carried in the hand-bag with little additional weight or trouble.

I have also what I have styled the *Aseptic Universal Needle Holder*. It is eight and one-half inches long, with a smooth symmetrical handle, a unique spring-catch and a button joint. One of the special features of this instrument is the formation of the jaws. The upper half or blade is rounded on the inner or usually flat side, and it contains a groove of sufficient size to hold firmly a Hagedorn or any other needle, curved or straight. It is also of extra length, an advantage readily appreciated by any one, who has attempted to suture high up in the vagina with the ordinary short holder. Its symmetry and simplicity, and the fact that it can be taken apart and cleaned in the most thorough manner in a moment, render it the most aseptic needle holder made, and a valuable addition to the aseptic gynaecological or other instrument case.

The next instrument is an *Improved Dilator for Rapid Dilatation of the Cervix Uteri*. Although, as you see, it is very much like the "Wiley Dilator," yet it has some advantages over that instrument. One of the handles is curved, so

that the hand of the operator does not obstruct the view of the part operated upon. Another improvement, and the principal one, lies in the joint, which is movable or a sort of toggle joint, which can be changed at pleasure, and extreme dilatation obtained if desirable. Moreover, if greater dilatation is desired at the external os, it may be obtained without too great tension being made on the internal os, and *vice versa*. The instrument may be taken apart in a moment and rendered perfectly aseptic. Codman and Shurtleff will supply any of these instruments.

THE PRESIDENT, DR. HORACE C. WHITE, then delivered

THE ANNUAL ADDRESS,

which was listened to with marked attention and interest by the Society. He said: I will occupy but little of your valuable time in presenting a few rambling thoughts and suggestions, with regard to our Society.

In our eager search for scientific facts, and in the busy whirl of the routine of daily professional duties, time passes so rapidly that it is well sometimes to stop and look over what has been accomplished, and changes have taken and are taking place.

The Gynaecological Society of Boston has just completed its second decade. Twenty years ago, when this society, which claims to be a pioneer in its department, was formed, it would have been an easy task to have reviewed a year's progress, and perhaps that which had been written strictly upon this department of Medical Science, then in its swaddling clothes, in a single address, and not have exhausted the time allotted. A few ovariologists, whose daring shocked their more conservative brethren, and whose percentage of death-rate would hardly have made their patients in haste to accept their services, constituted a large part of the abdominal surgery of that day. These were the advanced guard of the serried columns who now assault the well recognized foe, from every point of attack, and with numberless implements of warfare.

This Society was not only a pioneer, but it has done its share in causing Gynaecology to be recognized as an honorable science, and to reclaim it from opprobrium, and to place it upon a respected equality with other departments of medical science. Its founders were able, earnest, and conscientious men, who struggled with difficulties, which we of to-day, can hardly realize, and to them great credit is due for the honorable standing of the Society.

With familiarity in the use of anæsthetics and with the more recent discoveries which have given birth to antiseptic surgery, great advance has been made. The field has been continually broadening; like the progressive series it shows wonderful increase, until now it would seem

nearly impossible to bring anything like a complete review of a year's progress into a single address. If we should select a single operation and attempt to review all that has been said, written and done, we should exhaust our time long before we exhausted our subject. If a new principle of treatment or theory of disease were selected, we should still have the same almost unlimited mass to select from for discussion. Materials and methods of their use, as for instance sutures, needles and dressings, would be a fruitful source to draw from.

The use of electricity in its various forms, with its varied and ingeniously constructed batteries, its application as a remedial agent, both in medicine and surgery, its use to strengthen feeble vitality or to destroy diseased tissue, to promote growth or to retard overgrowth, to restore to life those who are apparently dead, or to take the life of those who are condemned to death, not mentioning its use as an accessory or convenience, such as lighting our houses and streets, ringing our door-bell whether we are awake or asleep, and summoning us, over the wire, by day or by night, with many other uses, this magical power, yet in its infancy, so far as its scientific and proper use is concerned, may, by the efforts which are being made to measure its power and estimate the resistance which it is capable of overcoming, be brought within the range of dosable remedies, and be a very important factor in the treatment of human maladies. A course of lectures might be written on this subject.

We recognize the fact that knowledge is increasing, that science is developing new truths, but what would he say now, who so long ago said "of making books there is no end?" If all that was written was truth unmingled with error, if there was no dross with the precious metal, we might soon expect the millennium of scientific knowledge, judging from the amount written; but while we believe that scientific knowledge is increasing, we cannot close our eyes to the fact that much that is advanced for truth will not stand the actual test. The growth of scientific knowledge like the growth of the body, is a slow process, costing great destruction of the old to bring in the new. Now if a review of a year's progress requires the discrimination between truth and error, a summarizing of what has been taught, that will stand the test of time and experience, then the task would present such a mountain of difficulties and impossibilities that no one would dare attempt to surmount them. It would be much easier and perhaps as profitable to follow the example of Artemas Ward, in his lecture on "The Babes in the Woods;" spend the whole of the time in telling why he did not lecture on this, that and the other subjects, and conclude his lecture by saying he had, therefore, made up his mind to lecture on "The Babes in the Woods."

During the past year we have held ten meetings, with an attendance varying from 25 to 75 per cent. of our membership. When we consider the imperative demands upon the time of a physician, which cannot be regulated by his wishes, and also the fact that two-thirds of our members reside outside of the city, this is not a bad record. We have had at nearly every meeting valuable papers and much profitable discussion. We have also had a large number of interesting and instructive pathological specimens exhibited, with detailed reports of cases and operations. Our by-laws have been revised and printed again with a list of the active members.

In September Dr. H. J. Harriman, who had served the Society as its Secretary so efficiently and faithfully during the past four years, was obliged to resign his office on account of ill health. The Society accepted his resignation with regret. In this connection, allow me to say that our Society records are a feature of which we may be justly proud. From the beginning it has been very fortunate in the selection of its Secretaries. This very important office, which combines the duties of Secretary and reporter, has been filled from the first by men who would be an honor to any medical society, as will be shown by inspection of its records. To Dr. Field, who so long and acceptably filled the office, the Society will be under perpetual obligation for having all the records neatly copied into suitable books up to the expiration of his term of service. I would recommend that this work be continued up to date.

Allow me further to recommend a plan suggested to me by the Secretary, which I think will do much toward keeping up the interest in the meetings, viz.: to have our reports promptly and regularly furnished to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for publication, and to have a sufficient number of "reprints" ordered by the Society so that each member may have a copy. By keeping these and getting them bound, if he chooses, each member will have, not a part, but all of the "transactions." This would serve to interest in the work those who cannot attend the meetings regularly. It would also be a stimulus to each to do his best work. I earnestly recommend this plan for your consideration, believing that it will be economical and valuable.

If the above plan is adopted, I would suggest the inquiry whether we might not enlarge our Society to include a number of physicians throughout New England, who are interested in Gynecology. They might be able to attend but seldom, yet they might communicate to the Society their best thoughts and report interesting cases. A careful consideration of these matters is all I ask. I would recommend a revision of our list of corresponding members and a systematic effort to get contributions from them.

I take pleasure in announcing that the records and lists of members have been collected and are now in the hands of the Secretary. Our Society begins its third decade in a prosperous condition. May the future be one of increasing prosperity and usefulness. And now thanking you for the generous assistance you have always given me, and the unmerited honor you have conferred upon me, I will close, bespeaking for my successor the same cordial support which you have given me.

The following were elected

OFFICERS FOR THE ENSUING YEAR.

President—W. Symington Brown.

Vice-President—Augustus P. Clarke.

Treasurer—Charles W. Stevens.

Secretary—Samuel N. Nelson.

Committee on Membership—J. F. Frisbie, E. C. Keller, H. O. Marcy.

Pathological Committee—S. N. Nelson, I. W. Starbird, A. L. Norris.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Acute and Subacute Nephritis—The Academy of Medicine.

It is not often that one has the pleasure of listening to such a model of clearness, conciseness and completeness as the paper read by Dr. Francis Delafield at the last meeting of the Academy of Medicine, on *The Treatment of Acute and Subacute Nephritis*. He acknowledged at the outset that he had no new drug to propose or no new plan of treatment to advocate. It was rather his object to determine, if possible, how plans of treatment and drugs already employed were to be intelligently applied in individual cases of the disease; since it was of importance not only that patients should be cured of their disease, but that this cure should be effected as speedily and as completely as possible, or, if the disease was an incurable one, that life and the capacity for labor and for enjoyment should be prolonged to the utmost.

To give an idea of the methods of treatment ordinarily employed, he thought it would be sufficient to quote briefly from a French, a German and an American authority. These were, Labadie-Lagrave, in the *Nouveau Dictionnaire de Médecine et de Chirurgie*, Strümpell's Practice, and Flint's Practice. Most authors, he went on to say after making the quotations, took much the same view of the treatment; that its main object is to make up for the diminished quantity of urine by acting on the skin and intestines, and that the principal danger of an acute nephritis is the accumulation of excrementitious substances in the

blood. Some authors, in addition, believed that they could rest the kidneys while they were inflamed by producing diaphoresis or catharsis, and that such rest would diminish the severity of the nephritis. Some thought that by a sufficiently large injection of fluids the inflammatory products could be worked out of the kidneys; a procedure which seemed to be analogous to the treatment of scouring the blood, as practiced by some eclectics.

Digitalis, while regarded with apprehension by some, was warmly advocated by others as a diuretic, or as a remedy for the febrile movement. Morphine in considerable doses was employed by some for the relief of uræmic attacks; in small doses by others to relieve vomiting and restlessness; while still others deprecated its use under any circumstances. General bloodletting seemed to be restricted by most to the nephritis of pregnancy, and to the very severe forms of the disease attended from the first with high temperature and cerebral symptoms.

The disposition at the present time to direct attention and the treatment to the symptoms of the nephritis, rather than to the nephritis itself; to the dangers of a diminished excretion of urine, rather than to the bad effects of kidneys in a state of acute inflammation, is so general and decided, that he thought it might be wholesome to look at the subject from the opposite point of view, and to direct attention, not to the functions of the kidneys, but to the kidneys themselves. In order to do this it was necessary at once to separate the cases of acute nephritis from those of subacute nephritis; the condition of the patients being altogether different in the two classes.

1. *Acute Nephritis*.—Most of the cases of acute nephritis met with complicate scarlatina, diphtheria or pregnancy. Less frequently the nephritis complicates one of the other infectious diseases or severe inflammations, or it is a primary lesion. In all cases of acute nephritis one morbid change is constant, viz.: congestion and exudation from the blood-vessels. The exudation consists of blood serum, white blood cells and red blood cells, which escape for the most part into the tubes and are mixed with the urine, to a less extent into the stroma of the kidney. The principal part of the exudate is regularly serum, but in some cases the emigration of white blood cells is considerable, and in some cases with a large emigration of white blood cells the exudation of serum is but small.

Having referred to other lesions that may or may not be added to this constant change in the kidneys, he spoke of the symptoms varying according to the severity of the nephritis, and said that, in the very mild cases, the only symptom was a diminution in the quantity of the urine and the presence in it of the exudate from the kidneys—the albumin, casts, and red and white blood cells. In the more severe cases, he continued, the same changes in the urine exist, and there are

added constitutional symptoms, such as fever, prostration, loss of appetite, nausea, vomiting, and anemia. In the still more severe cases there are also headache, delirium, stupor, convulsions, labored heart action, hypertrophy of the left ventricle, a pulse of high tension, and dropsy. In the cases in which the urine is suppressed for a number of days the patients develop alternating stupor and delirium, and pass into the typhoid state. The regular duration of a fairly developed acute nephritis seems to be about four weeks. Its natural termination, whether with or without treatment, is in recovery. But the more severe cases may prove fatal; while the cases in which there is from the first a growth of new connective tissue in the stroma are likely to become chronic.

As to the indications for treatment, in the very mild cases evidently no treatment is necessary, except to keep the patient in bed and on a fluid diet. In the more severe cases it is often proper to interfere in order to secure greater comfort and safety for the patient. The first of the different conditions which may call for treatment is the nephritis itself. It is to be remembered that although the quantity of urine voided is small, its quality is good; for it contains a fair proportion of excrementitious solids to the ounce of fluid; that convulsions and coma belong to the early days of a nephritis with scanty urine, while prolonged anuria is accompanied rather with the typhoid state; that the excretion of urine must naturally relieve the congestion of the kidneys, so that it is better for the kidney to perform its functions than to be at rest; that so long as the congestion of the kidneys persists the quantity of the urine will be diminished; and that a considerable diminution in the quantity of urine continued for one or two weeks is often borne perfectly well. It is not necessary, therefore, to pay attention to the diminished quantity and to try to make the skin or the intestines do the work of the kidneys. It is wiser, by relieving the congestion of these organs, to enable them to do their own work; knowing that the moment they begin to do this their congestion will be still further diminished, and that although the nephritis still continues, the excretion of urine may then be sufficient.

Fortunately, we have at our command means by which the congestion of the kidney can be materially reduced for short periods at all events. These means are: causing the blood to collect at the surface of the body by the application of heat to the entire skin; the use of dry cups, or wet cups, or heat over the lumbar region; the empirical use of calomel or sulphate of magnesia in small doses repeated at short intervals until the bowels begin to move; and the use of such drugs as will diminish the increased arterial tension. While the nephritis is still active, however, it is not to be expected that by the use of any means the urine will be brought up to its full normal

quantity, but only that a sufficient quantity will be passed to ensure the safety of the patient. The febrile movement requires no treatment, while the prostration, loss of appetite, nausea and vomiting call only for rest in bed and a fluid diet. The anemia ought unquestionably to be relieved, but while the nephritis is still active there appears to be no way in which this can be done with certainty. When convalescence is established the anemia readily improves with the ordinary methods of treatment.

The cerebral symptoms are those to which most attention has been directed. There can be no question that they regularly accompany a contraction of the arteries with increased tension and a labored action of the heart. No matter what views one may entertain as to the cause of this change in the circulation, Dr. Delafield believes that treatment is best directed to the arteries themselves, rather than to the uncertain cause of their contraction. There are, fortunately, he said, drugs which act promptly and efficiently for this purpose, and the most suitable of these are aconite, chloral hydrate and opium; and these are preferably to be given in small doses and at regular intervals, so that their use can be continued for some time. It is wise to watch the condition of the heart and arteries and, as soon as the condition of increased arterial tension is developed, not to wait for the manifestation of the cerebral symptoms, but to try and relieve it at once.

The treatment of a case of acute nephritis resolves itself, therefore, into the treatment of the nephritis itself and of the contraction of the arteries which may accompany it. To carry out this treatment he said he could from experience strongly recommend the following routine: The patient is put to bed and restricted to a fluid diet; the entire skin is washed clean every day; for two successive days drachm doses of sulphate of magnesia are given every hour until 1 oz. has been taken, or the bowels begin to move; after this the tincture of aconite is given in doses of 1 minim every hour. Within a few days the albumin in the urine will have diminished, the pulse will be soft, and the dropsy will have disappeared; but the patient will be anæmic. The milk is now gradually replaced by solid food, and iron and oxygen are given.

2. *Subacute Nephritis*.—The distinction between acute, subacute and chronic inflammations, while an arbitrary one, is often of real convenience, and Dr. Delafield regards this as especially true of nephritis. In acute nephritis, as has been seen, he went on to say, the inflammation is an acute and temporary one attended with congestion and exudation. The interference with the function of the kidney is only with the quantity of the urine; the urine that is produced being of good quality. The symptoms are due to the nephritis itself and to the accompanying contraction of the arterial

vessels. In subacute nephritis, on the contrary, the inflammation is subacute and long-continued; there is no congestion; the exudation is of the profuse, almost dropsical, character that we meet with in other subacute inflammations, such as pleurisy with effusion; and there are permanent changes in the stroma and glomeruli of the kidney. The interference with the functions of the kidney is not with the quantity of the urine, for this is often in excess, but with its quality; the proportion of solid matters steadily decreasing as the disease advances. The symptoms are largely due to the effect of the nephritis on the composition of the blood and the nutrition of the body. The anæmia, the dropsy, and the loss of strength are the prominent features of the disease. Contraction of the arteries is absent, or present only at intervals. The cerebral symptoms are chronic rather than acute. It may happen, however, that in the course of a subacute nephritis there will be exacerbations of the inflammation, during which the changes in the kidney and the symptoms are the same as those of an acute nephritis.

Subacute nephritis is especially common as a primary disease and as a sequel of scarlatina and diphtheria. The patients lose strength, they become anæmic, and they suffer from nausea, vomiting and diarrhoea. There may be inflammation of the retina, and the arteries are for the most part relaxed; but may sometimes be contracted. The cerebral symptoms are more frequently chronic than acute, and dropsy is apt to be a marked symptom. The urine may be somewhat diminished, but is often in excess. The specific gravity and quantity of solid matters excreted diminish as the disease progresses, while the quantity of albumin mixed with the urine is considerable.

Some of the patients continue to get worse in every way, and die within one or two years. Some of them exhibit some or all of the symptoms of the disease for weeks or months; then seem to be partly or completely well; then again become ill, and so may go on for many years, sometimes better, sometimes worse. In some of them acute exacerbations of the inflammation may give for a time the symptoms of acute nephritis. A very few seem to recover permanently. The conditions which require treatment in these cases are: 1, the subacute nephritis; 2, the changes in nutrition and the composition of the blood; 3, the dropsy; 4, the condition of the arteries; 5, the cerebral system; 6, the acute exacerbations of the inflammation.

For the nephritis itself the most efficient treatment is the residence of the patient in a suitable climate. The climate should be warm, and the particular locality selected should be one where the patient can lead an out-of-door life. If the patients remain in a cold climate it will be necessary to confine them to the house for much of the time. Except during the exacerbations of the

nephritis, the patients should take as much of solid foods and fats as they can digest. The excessive use of milk and of the mineral waters is to be avoided. It is possible that the use of opium or of the bichloride of mercury may favorably affect the nephritis. The anæmia is a most important symptom. There is a diminution in the quantity of hæmoglobin and in the number of red blood cells. The most efficient treatment for this is the internal use of iron and the inhalation of oxygen, combined with massage and the relief of constipation. With this treatment in many of the patients the improvement is satisfactory, but in some no such improvement takes place. The dropsy may never be more than an inconvenience, or it may constitute the most distressing feature of the case. It is apt to reach its greatest development with low arterial tension and often with a large excretion of urine. In some cases the treatment of the anæmia and the regulation of the diet will answer at the same time for the treatment of the dropsy. In other cases it is necessary to employ different measures.

When a subacute nephritis has lasted for any length of time the quantity of urea excreted falls to 6 or 7 grains, or even less to the ounce. The patient ought, therefore, to pass 70 or more ounces of urine daily. If it is desired to diminish the dropsy by increasing the quantity of urine it is wise not to increase the urine more than will be sufficient to enable the patient to excrete his 500 grains of urea a day. The quantity of fluid which the patient drinks should be regulated, as far as possible, according to the quantity of urine passed; not allowing the former to exceed the latter. In the extreme cases of dropsy we are obliged to purge, to sweat, to puncture the skin, and to tap the serous cavities. But when these measures become necessary it means that the case is an unfavorable one.

The condition of the arteries and of the left ventricle of the heart should be watched throughout the disease. High arterial tension can often be controlled by nitro-glycerine, chloral hydrate, or opium. Low arterial tension can, theoretically, be heightened by digitalis or ergot, but Dr. Delafield has found no advantage in doing this. To avoid the cerebral symptoms it is necessary constantly to watch the excretion of urea and the condition of the arteries. The quantity of urine should be kept large enough to make up for its diminished solid contents, and increased arterial tension should be at once relieved. The acute exacerbations of subacute nephritis are to be managed in the same way as an attack of acute nephritis.

In conclusion, he remarked that, as he had stated at the beginning, he was not able to offer any new plans of treatment. He had simply tried to show that some of the old methods might perhaps be more intelligently applied, and that,

while symptoms had to be treated, this might be done largely with direct reference to the nephritis.

The paper was discussed by Drs. Jacobi, Loomis, Kinnicutt, Roosevelt, Winters, Lawrence Johnson, and others, and Dr. Delafield closed the discussion. In the course of his remarks he said that he had always found one difficulty about the subject in question. Whenever he commenced to talk about acute and subacute nephritis some one was sure to get off on to the discussion of chronic Bright's disease. He thought Dr. Jacobi had made a very good point in calling attention to the comparative frequency of acute and subacute nephritis. It was not by any means almost exclusively confined to scarlatina, as many practitioners seemed to think, but was met with in connection with many of the other acute fevers, and not infrequently as a primary affection also. Many young laborers went about their work while affected with acute or subacute nephritis, not considering themselves sufficiently ill to take to their beds, and thus very serious injury was liable to result.

As regards the matter of arterial tension, he thought it was necessary to draw a sharp line between cases of acute and subacute nephritis. When the affection was acute there could be no question that the quickest way to reduce the tension was by the use of small doses of calomel or sulphate of magnesia frequently repeated. This relief he believed to be due to the effect of the drug on the nephritis itself. Otherwise it was not easy to see how such agents acted, since in order to secure the best results their use should be suspended as soon as a distinct purgative action was produced. In order to relieve the arterial tension the calomel or sulphate of magnesia should be given every hour, just as in peritonitis. This effect having once been obtained, it could be sustained better by aconite in minute doses than by any other agent with which he was acquainted.

The moment that we had to deal with subacute nephritis the conditions were found to be altogether different, and no good results were to be any longer anticipated from the use of the agents mentioned. Here we employed the class of drugs which dilate the vessels, and nitro-glycerine and chloral hydrate were both efficient for this purpose. The use of digitalis did not apply to acute nephritis at all, and in subacute nephritis the indications for its employment had been very clearly pointed out by Dr. Loomis.

(Dr. Loomis had remarked that whenever in subacute nephritis heart trouble was met with we had a right to resort to digitalis or other cardiac tonics; but so long as arterial tension remained such agents would only do harm. If in any case with a tendency to heart failure the digitalis seemed to increase the quantity of urine voided he thought it ought to be employed, and it was perfectly safe to do so as long as this effect was noticed.

If, on the other hand, arterial tension was present, digitalis would always diminish instead of increase the quantity of urine, and consequently it was clearly contraindicated in any such case.)

At the conclusion of Dr. Delafield's remarks the President, Dr. Loomis, announced that the Academy had secured the refusal of three lots for its contemplated new building on 43d street, near 5th avenue, the price of which was \$90,000.

P. B. P.

MISCELLANY.

LETTERS RECEIVED.

Dr. H. B. Tanner, South Kaukauna, Wis.; Samuel H. Allen, Baltimore, Md.; Dr. Wm. G. Parrish, Burlington, N. J.; Dr. J. A. Freeman, Millington, Ill.; Dr. Ira B. Read, New York; American Oxygen Association, New York; Dr. R. Harvey Reed, Mansfield, O.; Dr. C. H. Bradley, Haverhill, Mass.; Singleton, Bonnel & Co., Chicago; Dr. J. L. Smith, Newport, N. H.; Lehn & Fink, New York; Dr. P. O. Hooper, Little Rock, Ark.; Dr. E. S. Elder, Indianapolis, Ind.; Dr. J. J. Rendleman, Cairo, Ill.; Dr. John B. Hamilton, Washington, D. C.; Dr. L. D. Tompkins, Cassopolis, Mich.; Johnson & Watson, Dayton, O.; E. G. Myers, Granville, O.; Percy Procter, Cincinnati, O.; Dr. Homer Johnson, Oberlin, O.; Dr. C. Rembe, Fayetteville, Ill.; Dr. H. H. Beverly, Pilgrim Lake, Tex.; Chas. E. Matthews & Bro., Chicago; M. J. Backenston, Philadelphia; Dr. E. J. Mathis, Energy, Miss.; Dr. M. R. Smith, McGrawville, N. Y.; Prof. Smith, Lexington, Ky.; Geo. P. Bower, Minneapolis, Minn.; Mrs. L. P. Fitch, Charles City, Ia.; Thos. Leeming & Co., New York; W. P. Marks, Garysville, Va.; Schlesische Gessellschaft für vaterländische, Breslau, Germany; O. L. Denning, Philadelphia; Dr. L. Hummel, Philadelphia; Rubinat Co., New York; Health Restorative Co., New York; W. P. Cleary, New York; National Architect's Union, Philadelphia; H. W. Young, Kansas City, Mo.; Dr. F. J. Thornburg, Cincinnati, O.; Dr. A. C. Wood, Owensboro, Ky.; Dr. W. E. Casselberry, City; A. J. Richer, Montreal, Can.; Jerome Kidder Mfg. Co., New York; Dr. Geo. W. Miller, Girard, Kan.; W. J. Anderson, Edhany, Miss.; Longmans, Green & Co., New York; Wood Bros., Jacksonville, Ill.; J. B. McBride, C. H. Stansbury, C. T. Hughes, S. G. Sevier, Louisville, Ky.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 16, 1889, to March 22, 1889.

Capt. Richard C. Newton, Asst. Surgeon, leave of absence granted in S. O. 27, November 21, 1888, is extended to include May 22, 1889, by direction of the Secretary of War. Par. 17, S. O. 64, A. G. O., Washington, March 19, 1889.

Capt. Richard C. Newton, Asst. Surgeon, resignation accepted by the President, to take effect May 22, 1889. Par. 18, S. O. 64, A. G. O., Washington, March 19, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 23, 1889.

Surgeon W. G. Farwell, detached from the receiving ship "Franklin" April 1, and to the Naval Hospital, Norfolk, Va.

Surgeon R. A. Marmion, ordered to the receiving ship "Franklin."

Surgeon N. McP. Ferebee, detached from the Naval Hospital, Norfolk, Va., and placed on waiting orders.

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No. 14.

LECTURE.

THE HEATING AND VENTILATION OF THE MANSFIELD SCHOOLS AND CHURCHES.

A Lecture delivered before the Mansfield Lyceum, February 13, 1889.

BY R. HARVEY REED, M.D.,

CITY HEALTH OFFICER, MANSFIELD, OHIO, SECRETARY OHIO
STATE SANITARY ASSOCIATION, ETC.

There are three leading combinations of chemicals that enter essentially into the welfare of the human economy, the absence of either one of which would soon result in death. The adulteration or impurity of either, or a reduction of the normal supply of either one, results in a proportionate injury to the living human organism.

These three combinations are air, water, and food. In previous papers read before this Lyceum and our City Council I have called attention to the importance of a bountiful supply of pure water, and our city authorities have practically demonstrated their appreciation of such a supply by investing the sum of \$190,000 in securing a suitable water supply for our city, which requires an annual outlay of \$5,700 to maintain, saying nothing of the interest on the capital invested in the plant, and yet no one complains, or would ever think of voting to abolish our city water works, which every person concedes to be an absolute necessity.

The importance of a bountiful supply of pure air is second to neither of the other two combinations that must needs be present in order to support human life, and from personal experience and repeated investigations the unwarranted neglect and miserly supply of this, the freest of all of nature's gifts to man, has led me, as your City Health Officer, to inspect the schools and churches of our city, and give you an unvarnished report of their real condition as to heating and ventilation.

In warm countries, where there is little need of protection from the elements, and where open huts serve in place of the "hermetically sealed" houses in our more rigorous Northern climates, there is little need of systems of heating and ventilation, for there the native or his visitor gets a

bountiful supply of God's free pure air night and day, winter and summer, unmolested by the conventionalities of art. Not so in our Northern climates. The open hut is replaced by the device of the city architect, who at once commences to rob our people of their pure air, and study how they can build all sorts of fancy structures of the latest and most approved style, in which they can "hermetically seal" their inmates from the oceans of pure air that surround this "human can they call a house," and thus not only starve them of oxygen, but poison them in their own excrement—the carbonic acid gas they exhale from their stunted lungs at every breath. Could the dead that lie in yonder grave-yard, who have fallen victims to illy planned and improperly heated and ventilated dwellings, lift their voices in one accord against the architects who by their mistakes have forced them to a premature grave, nothing but an Ashland County jury would save them from conviction of murder in the second degree.

In making these inspections I have endeavored to "hew to the line, let the chips fall where they may." I have inspected all the churches, and each room in every school-house in the city, in person, and noted the exact plan by which it is heated and supplied with pure air, or air of any kind, and have tried to briefly point out their faults and also note their good qualities, and will close the paper by giving you a simple, yet scientific method, illustrated by charts and practically demonstrated by a model, whereby you can heat your buildings thoroughly, and at the same time flood them with abundance of pure air.

Before giving the details of these inspections, it is only just that I should say that in the main the people are not to blame for the almost universal defects found in the heating and ventilation of their schools and churches. They are not expected to know, nor to study up those problems, and most naturally depend on the architects for all the plans and specifications regarding their buildings, and hence they are just the persons the sanitarians are looking for, and to whom and of whom they have a word to say. The architect comes to you with a beautiful perspective, every inch of which is elaborately detailed down to the tacks and paint. So much must be stoned from

Cleveland, Cincinnati, or New Hampshire; so much must be brick of the latest pattern, burned with *hickory wood*: this particular part of the edifice must be finished with boards cut from the cedars of Lebanon, that part must be furnished with choice butternut from the valleys of the Mohican, the windows must be dappled with glass of many colors, the walls ceiled in with the best of plaster, and furnished with a specially hard finish; the floors must be of the finest oak, inlaid with hard woods of many kinds and colors; and finally this great and costly mansion is to be heated according to the latest and most approved methods.

That is usually all that is said and about all that is done in regard to supplying you and your family with the real necessity of life—the most important part of the whole edifice. I mean to say that the average architect pays little or no attention to the heating and ventilation of your building. He can tell you all about the ornaments and fancy fixings on the cupolas and cornices of your house, and will insist that they be mathematically correct, yet the heating and ventilation, on which depend your life and health, he leaves to some furnace peddler to complete “in the latest and most approved manner.”

Go with me now, if you please, for a few moments, while I take you from church to church, and school-house to school-house of our prosperous city, and examine into and study from a practical and scientific standpoint the legacy the architects have left this city in the way of heating and ventilation in a class of buildings that should be the pride of every city and above all other public buildings the very type of perfection.

On December 18, 1888, I visited and examined the St. Luke's Lutheran church, which is not yet completed, and which was planned by an eminent architect, Mr. Wm. Gibbon Presto, of Boston, Mass. I found the church was heated by two *Ætna* soft-coal furnaces, made at Springfield, O., which are supplied with cold air from two windows leading into the coal rooms in the basement, over which the air must pass before entering the heater. The lecture-room of the church is heated from these furnaces by hot air, which is conveyed in conduits coming in from 4 to 7 feet from the floor. At the rear end of the lecture room is a fire-place, and just beside it a foul-air register near the floor and opening into the furnace at that end of the church. At the front, or pulpit end of the lecture-room are foul-air ventilators located about 3 feet from the floor and opening into conduits that pass through pillars near the pulpit in the auditorium and open into the garret, which connects with the open tower. The one of these passes a part of the distance near the furnace, which aids some in warming its contents of foul air, and thus assists in its upward movement, while the other is not provided with any means of heating whatever. In the auditorium the

warm air comes in at the floor, while the foul air is allowed to escape by means of registers placed about 3 feet above the floor and opening into the attic, with no provisions for heating the column of cold air and thus favoring the exhaustion of the foul air from the main room.

REMARKS.—With no provisions for protecting the pure air from the dust of the coal and the ashes of the furnace it begins to get fouled before it enters even the hot-air chamber of the heater, and is an excellent method to carry quantities of dust into the rooms to be heated and ventilated. Whilst the lecture-room receives a pressure of warm air from the furnace the fire-place in the rear end of the church furnishes a most excellent method for the escape of the stratum of cold foul air that always finds a place at the floor, and it should always be kept burning when the room is being occupied. The foul-air ventilator that opens into the furnace should never be left open after the room is once heated, and under no circumstances when occupied by an audience, as that only serves to convey the *cold foul* air back to the furnace to be reheated and returned in all its impurity to be breathed over again by the audience. The other foul-air registers should have been placed at the floor, instead of 3 feet above the floor, and supplied with means for heating the column of cold air contained in them. As it is, they leave a three-foot stratum of cold foul air in the rooms they are intended to ventilate, even when the ventilators work. But you must remember they will not work until there is a sufficient pressure of air from within to lift the cold column of air they contain, and if that is at any time greater than the pressure within, they will allow their contents to descend into the room to the discomfort of the audience.

In the lecture-room, however, the fire-place when in use serves this purpose as far as it goes, and not unfrequently creates such a draft as to cause the cold air to descend in the foul-air ventilators to supply and equalize the vacuum thus induced, especially when the supply from the furnace does not equal the amount of air exhausted by the fire-place. It must be remembered that a grate with a fire in it, and foul-air flues without fire, will not work harmoniously in the same room at the same time; hence one or the other, as a rule, should be closed.

On December 26, 1888, I examined the Baptist church, which was built in 1864, but by whom it was planned I was unable to learn at this time. I found it was heated by a Ruby soft-coal furnace, which was supplied by fresh air from the outside by two 8x8 inch cold-air conduits, whilst the warm air was admitted into the auditorium by five registers placed in the floor near the rear end of the room, to which the warm air was conveyed by five 10 inch hot-air conduits. Two foul-air registers were placed in the floor near the front

end of the auditorium, one on either side, and connected with a conduit that returned the cold foul air to the furnace to be reheated and returned to the room again. These, however, had been abandoned some time since and closed up. Two 14x16 inch registers were placed in the ceiling, which allows all the warm pure air to escape into the garret, while the cold foul air is allowed to remain in the lower portion of the room. The janitor, however, has discovered that in order to heat and keep the auditorium warm he must close these registers, which serve him well when the room gets too warm and he desires to cool it off rapidly.

REMARKS.—By enlarging the cold-air inlet of the furnace, and opening the foul-air ventilators at the floor into the two chimneys at the front end of the church, which are always kept warm by stoves, a very great improvement could be had at a minimum amount of expense in the way of heating and ventilating the auditorium. The lecture-room is heated by stoves, with no provision for either the ingress of pure air or egress of foul air, except by the windows, which needs no comment at this day and age, as a means of ventilation, as they are always an objectionable means of obtaining fresh air, except in very warm weather.

On January 10th and 11th, 1889, I inspected the Congregational church, which was built during 1871-3, at a cost of nearly \$125,000, under the direction of architect G. P. Randall, of Chicago, Ill. The auditorium is heated by steam from coils of pipe running under each seat, which furnish ample means for the desired amount of heat. The original plan provided for seven large ventilators placed in the comb of the roof and leading down into the top of the auditorium, and so arranged by valves as to be opened or closed at will, whilst the foul air was expected to beat a hasty retreat through two small registers, 12x12 inches, placed in the base-board of the auditorium and opening into the cellar.

By this theoretical plan it was intended to let the fresh air in at the comb, which being cold and consequently heavier, would descend into the auditorium, driving the foul air out at the floor into the cellar. But, like the old spook story of our childhood, when a certain boy undertook to scare another lad while he was passing through a certain piece of timber land, it was a failure. Having secured a sheet he placed it over his head and lay in wait for his victim. But a pet monkey decided to imitate the performance, and, unseen, followed his master to his hiding place, with a pillow-case over *his* head. Just as the victim approached, the trickster chanced to spy spook No. 2, and instead of scaring his victim, became frightened himself, and started to run with all his might, followed by the monkey, while the victim enjoyed the fun and egged on the race by shout-

ing, "Run, big spook, or little spook will catch you."

So in this method of ventilation, instead of the fresh air coming in at the comb and supplying the auditorium, the warm air rushed out, and instead of the foul air passing out through the little registers at the base-board, the cellar air rushed in, and we had a reverse order of affairs throughout, as in the old spook story. These are only the result of natural laws, however. The warm air being lighter rises and escapes through the comb ventilators, there being no provision made by the architect for a supply of fresh air a vacuum is the result, and the equilibrium is established by the cold air rushing in from the cellar through the foul-air registers, as well as through the doors and windows. The janitor, however, found it impossible to heat this room with the comb ventilators open, and in order to accomplish his duties satisfactorily, closed them and supplied the auditorium with fresh air by means of doors and windows.

The lecture-room of this same church is heated by stoves, and has no supply of fresh air, except through the doors and windows, whilst the warm air is allowed to escape, as usual, at ventilators placed near the ceiling, and the foul cold air is allowed to remain at the floor for the benefit and edification of the audience.

REMARKS.—It is no doubt plain to every one here to-night that the heating and ventilation of this church is a practical failure. It is true you heat the church, and, as managed by the janitor, you get some fresh air from promiscuous sources, and allow a part of the foul air to escape, none of which can be credited to the original plan, which in and of itself cannot be recommended as a desirable method of heating and ventilating.

On January 15th, 1889, the First Presbyterian church was inspected; it was built in 1858, but by whom I am unable to inform you. This church is heated by two Montrose hard-coal furnaces, which are supplied with a small quantity of fresh air from the outside, but the mechanism of the furnace is such that the air is frequently contaminated with gas and dust, and always so overheated as to make it very disagreeable to inhale. The provisions for ventilating the auditorium are a few small ventilators, placed near the ceiling, which permit a quantity of the warm air to escape and leaves the carbonic acid near the floor to soothe the innocent audience to sleep while they may be trying to listen to the most interesting sermon. Hence the objectionable method of window ventilation must be resorted to as the less of two evils, to relieve the so-called "closeness of the air" and stupor of the audience from the poisonous effects of large quantities of carbon dioxide. The lecture-room is heated by direct radiation from the same heaters, and has no system of ventilation, except the windows and doors.

REMARKS.—In this case it is plain that the church is improperly heated and is devoid of anything like adequate ventilation, whilst large quantities of coal are wasted annually in trying to make the church approximately comfortable.

The St. John's German Evangelical church was visited and inspected January 18, 1888. This edifice was built in 1870, and is heated by a Barnes' soft-coal heater, No. 64, which secures its supply of air from the Sunday-school room, which it heats by radiation, and this air, after being vitiated by the Sunday-school scholars, is heated and conveyed to the auditorium in a second-hand condition for the congregation to use during the sermon. No provisions are made for ventilation except by windows in either the auditorium or Sunday-school room.

On the same date I visited the St. Peter's Catholic church, a handsome edifice, built in 1870; this is heated by stoves, and has no provisions for ventilation except the doors and windows.

REMARKS.—The congregation is a large one, and the architectural finish of the interior of the church is very costly as well as attractive, but the supply of pure air for the hundreds who congregate there from day to day has been wholly left out of consideration except by the faulty method of window ventilation.

On the 21st of January, 1889, I visited the Episcopalian church, which was built in 1847, and has had some repairs since that time. It is heated by one Crystal furnace, manufactured at Troy, N. Y., and one Sayer furnace, made at Montrose, Pa. The former takes its cold air from the cellar, which is in quite a dilapidated condition, and is in turn supplied by a hole in the wall on the west side of the church. The Sayer furnace is supplied with cold *foul* air from the rear of the auditorium, whilst the pure air from outside is carefully avoided, except so much as may steal into the foul air register from the outside door of the church. There are no other provisions for ventilation except the doors and windows. The Sunday-school room, built two or three years ago, is heated by stoves, and ventilated by the door and window system.

REMARKS.—In the one furnace the impurities of an old and musty cellar are conveyed with the air to the furnace, heated, and forwarded to the auditorium, while the other furnace is employed to reheat the foul cold air of the church and return it to the unsuspecting audience to be breathed over and over again during each service.

The same day I inspected the United Presbyterian church, which was built in 1885, and planned by Richard Vaux, of New York City.

It is a handsome, well-arranged edifice, heated by two hard-coal "Richmond Triumph" furnaces, Nos. 30 and 27, built at Norwich, Conn. More care than usual has been observed with these furnaces, to exclude all the pure outside air possi-

ble, and instead the one is supplied with cold foul air exclusively, taken from the auditorium, reheated, and returned to the audience, while the other is supplied with air from the hall leading off the main hall to the lecture and Sunday-school rooms. Owing to the necessity of having the front door open as the people come and go, a small supply of outside air finds its way to this furnace at the opening and closing of each service.

REMARKS.—By means of openings in the ceiling and the opening of windows at the top, they are enabled to retain a large quantity of the cold foul air near the floor, and allow a great and unnecessary waste of the warm pure air through these openings. If the church authorities would close all the top openings of their rooms, keep them closed except when they desire to cool their church, supply the furnaces with fresh pure air from the outside, empty their foul cold-air into the ventilating flue instead of heating and returning it to be breathed over again, they would find a reduction in their coal bills, and a large decrease in the drowsiness of their congregation when confined for any length of time in the auditorium.

On January 21, 1889, I examined into the heating and ventilation of the Methodist Episcopal church, which was built by Mr. Hershisser, of this city, about 1868. It is heated by two hard-coal furnaces. One is a No. 5 Sayer furnace, built at Montrose, Pa., and the other is without name, so far as I could see, but is much like the Sayer heater. The former is placed in the library, and when the library window is open, it is supplied with fresh air from the exterior of the building; but when the window is closed, it is without a fresh-air supply, and must draw its air from the library and lecture room with which to supply the auditorium. The other furnace is supplied with fresh air by a conduit about a foot square, which receives its supply from the outside by means of a window. There is no provision whatever for the escape of foul air from the auditorium except through the doors and windows. Two small registers have been placed at either side of the auditorium on about a level with the tops of the windows, which allow quite a quantity of the *warm pure-air* to escape, and thus aid in cooling the room and wasting the fuel. The lecture room must depend entirely on door and window ventilation for the purification of the air.

REMARKS.—By changing the registers and placing them at the floor, making them several times larger, and supplying both furnaces all the time with fresh air from the outside of the church, the auditorium could be very greatly improved with regard to its heating and ventilation.

The Christian church was examined on January 22, 1889. The erection of this church dates back to a period before the civil war; the exact date I was unable to obtain. It is heated by a

Sayer furnace No. 5, supplied from the floor of the auditorium with *cold foul-air*, which is allowed to escape through a register in the floor at the west side of the church; this connects with a cold air conduit coming from the exterior of the edifice to the furnace. No other provisions have been made for the escape of the foul cold-air except the doors and windows.

REMARKS.—In this church we have a mixing of "good and evil," as it were. So far as supplying the furnace with air from the outside is concerned it is good, but when it comes to contaminating the same with vitiated air from the auditorium, it is evil. The vitiated air should be conveyed to a ventilating flue and allowed to escape.

On January 22, 1889, I visited the Evangelical Lutheran church, which has been recently repaired. This structure is heated by two "John Grossius" soft-coal heaters, made in Cincinnati. The Sunday-school room is heated by radiation, and ventilated by doors and windows only. The auditorium is heated by fresh warm air, which enters the room by means of registers in the floor. There is no provision for the escape of foul air except by the doors and windows. An opening in the garret is in the interest of the coal dealers, as it necessitates the use of more coal to heat the church, owing to the great loss of warm air, whilst the corresponding increase of carbonic acid keeps up a slow process of poisoning the audience.

On the same day I visited the English Lutheran church, which is an old-style edifice, built in 1856, and soon to be replaced with a new one.

This building is heated with a Sunbeam Challenge furnace, from New York. The furnace is placed in the lecture room, which is heated by radiation, and ventilated by doors and windows, while the auditorium is supplied with foul air taken from the lecture room, and heated and sent upstairs. There is no provision for the escape of the foul air except through the windows and doors of the auditorium, which is supplied with a sort of a safety-valve attachment in the way of a trap door in the ceiling, which is very convenient to waste the surplus heat of the room when the pressure gets too high.

On January 22, 1889, I visited the church of the Believers in Christ, which was planned by the pastor, Rev. Sorg, and built in 1887. This plain but neat little edifice is heated by a Montrose furnace and supplied with fresh air from the exterior of the building by means of a 15-inch vitrified pipe conduit. The foul air is removed from the lecture and Sunday-school rooms and auditorium by means of four foul-air registers placed at the floor and opening into the ventilating shafts. The auditorium is also supplied with four additional registers, placed near the ceiling, which are only used to cool the church when it gets overheated.

REMARKS.—I cannot pass this building with-

out congratulating this congregation on the advancement they have attained over all the other churches in the city, with perhaps one exception, in regard to the heating and ventilation of their building.

On January 24, 1889, I examined the Associate Presbyterian church, which is a very small edifice, built in 1888; it is heated by stoves, and ventilated by doors and windows. Four 12×12 inch registers have been placed in the walls near the ceiling, and are only mentioned to be condemned, except for cooling off the church when it is overheated.

On the same day I inspected the Reform Presbyterian church, which was planned by a Mr. Rumbaugh, then of this city, and built in 1885. This church is heated by Goff & Co.'s hard coal, hot-air, blast furnace, which takes the fresh air from outside the church, heats it, and delivers it to the auditorium at the floor near the rear of the room, while the foul cold-air is taken from the front and lowest part of the room, and exhausted by means of a foul-air shaft, which is heated by a small stove used in one of the side rooms of the church. In the foul air conduit is an arrangement by which the cold air can be turned into the fresh-air conduit leading to the furnace. This is used only while heating the church, when it is cut off from the furnace and again opened into the foul-air shaft, which is or should be kept open during the presence of an audience in the auditorium. The Sunday-school and lecture room is heated by a Grossius heater, manufactured in Cincinnati, and is supplied with fresh air from the exterior. Unfortunately, however, there was no provision in this room for the escape of the foul air, except by the doors and windows.

REMARKS.—With the exception of the Sunday-school room, the system for heating and ventilation used in this church is the best in the city, whilst the Sunday-school room could easily be remedied by placing a foul-air register in the ventilating shaft of the chimney.

It will be observed that, with two exceptions, there is not a church in our city that is provided with adequate means for the prompt removal of the carbon dioxide, the deadly poison that is exhaled with every breath. When we remember that it requires at least 1,500 cubic feet of pure air every hour to supply one human being, and when we know that the average movement of air through a conduit of 1 square foot capacity under ordinary circumstances, in mild weather, is about 150 feet a minute, and again take into consideration the miserly holes that are required to do this duty in supplying the majority of our churches, we are not surprised that people get sleepy when they attend church. It would be just as reasonable for each congregation to elect a committee annually, whose duty should be to give each mem-

ber a dose of morphine every time they enter the church, in order to stupefy them during the sermon, as to allow the ventilation of their churches to remain as they are, and poison their members with a drug that is even more dangerous than any of the modern narcotics, to say nothing of the disgusting and filthy custom of breathing and rebreathing the foul exhalations of their neighbors.

I have no doubt this lecture has already reached proportions that may weary some of you at least, but the importance of the subject is such as justifies me in trespassing still further on your patience, and hence I have left the most important part of our topic for the last.

When we remember that the youth of our city spend the best part of their days (from 7 years to 21 years) in our school-houses, and that among them is your daughter or my son, whose life and health depend on the perfection of their sanitary conditions and surroundings, it is sufficient excuse for our dwelling longer on this subject, and examining into their real condition and merits from a strictly sanitary standpoint. I shall try, however, to group them, and thus save time and space.

The first two school-houses examined were the Marion Avenue and John's Addition (new building). Both of these buildings have just recently been constructed, and were planned and built by Mr. F. D. Webber, of this city. As they are practically heated and ventilated on the same plan, I will consider them together in order to save time.

Each room is heated by a Grossius soft-coal heater, placed in the room to be heated, and supplied with cold fresh-air from the exterior of the building, conveyed to the heater by a tin conduit some 8 or 10 inches in diameter, with a perforated diaphragm placed near the exterior opening to lessen the amount of air admitted. This air passes through the hot-air chamber, and out at the top of the stove into the room. A number of foul-air ventilators are placed in the base-board at the floor, which the contractor informed me opened into the space beneath the floor, and from there into the foul-air shaft. These registers at the floor are 15×5 inches with one exception, which was 12×10 inches, and placed in the baseboard near the floor, and opened directly into the ventilating flue, which was warmed by the chimney.

REMARKS.—In the first place, the fresh-air supply was entirely too small for the number of pupils contained in each room, to give them the required amount of air, and the result was I found the teachers were in the habit of raising the windows to admit fresh air, at the expense of some unfortunate child taking cold from a draft, or being uncomfortable to say the least.

In the second place, I found that almost invariably the cold air was coming *in* at these foul air registers, placed around the room at the floor, instead of going *out*, except the ones opening into

the ventilating flue direct, in which there was a strong outward draft. This fact necessitated the keeping of these closed, as they made the room very uncomfortable when left open. I think we can attribute the failure of these ventilators to work as designed to three possible causes:

First, that their size is too small, and the space between the floor and the ceiling is not sufficient to favor an outward draft.

Second, that the ventilating flue into which they emptied was too small, or not sufficiently heated to establish a draft under the circumstances, and

Third, that the supply of fresh air was not sufficient to supply the exhaust through the direct ventilator and the open transoms above the doors, and at the same time produce a draft through under the floor.

Whilst these two buildings are the best ventilated school-buildings in the city, yet I would recommend more fresh air, which should not be heated so hot while passing through the hot air chamber as it now is, and either no ventilators opening into the space beneath the floor, or if there are, to have them larger, with more space beneath the floor, with a well heated foul air shaft in order to secure a constant and perfect exhaustion of the cold foul air. As the buildings now exist, I would close all these floor ventilators except the one opening into the ventilating shaft direct, and make that one opening into the foul air flue at least two or three times larger. Whilst this would not secure perfection in heating and ventilation, it would be a vast improvement on the present, and avoid the dangerous and unsanitary habit of opening the doors and windows to obtain fresh air.

On the same date (January 22, 1889) I visited and examined the High School building, and on the 23d the Fourth Ward building, which we will consider together, as they are both heated and ventilated on the same plan. These buildings were erected some fifteen years ago by Mr. Hershiser, of this city, who put in a Boston system of ventilation. The rooms were all heated by a Grossius heater, supplied with fresh air from the exterior, while the foul air was *intended* to be removed by small registers, 18×4 inches, placed in the baseboard at the floor, and opened into a 3-inch or 4-inch tin conduit that descended into a 6-inch tin conduit placed beneath the floor, and which finally opened into the ventilating shaft.

REMARKS.—The same remarks hold good in regard to these buildings as to the former as regards their fresh-air supply, and the system of getting rid of the foul air is a total failure. Excepting the little ventilators that open directly into the ventilating shafts that were warmed by the chimney, there was no outward draft whatever, whilst in many of them that opened into a cold ventilating shaft there was a strong current of cold air coming in, which kept the floor cold

and uncomfortable. The same recommendations would apply to these buildings as to the former ones, which we are certain could still be improved by having furnaces placed in the cellar to supply the necessary amount of fresh air properly warmed, and thus avoid the necessity of carrying the coal up stairs and delivering it all over those large buildings as is now the case, saying nothing of the increased danger of fire by so many stoves.

On January 22, 1889, I examined the old school building in John's Addition, and on the 23d the old Normal School building, which we speak of only to condemn. They are both heated by stoves, with no provisions for fresh air, or the escape of the foul air, except at the doors and windows. In these buildings the air was almost intolerable, and the sooner they are condemned for school purposes the better it will be for the rising generation that must now be incarcerated in them from day to day.

The Second and Third Ward buildings were examined on January 23, 1889. Both were heated by the Grossius heater, which was supplied with fresh air from the exterior the same as the other buildings already described. In the old part of the Third Ward building the foul-air ventilators were placed at the floor as in the former buildings, but opened into the hollow wall, instead of a ventilating flue, which connected them with the garret. Some of these ventilators were working all right, but the majority were admitting cold air, instead of exhausting the foul air. In this building there were no ventilators opening directly into foul air shafts. In the new part of this building there were no foul-air ventilators at the floor, but a retrograde metamorphosis had apparently been established by placing three ventilators in the wall near the top of the room, whereby the foul air was left in the room, and a large portion of the warm pure air wasted.

In the Second Ward school building the new part has a foul-air register up stairs, 18 x 12 inches, opening into the hollow wall near the chimney, whilst the old part has no foul-air ventilators at all, and no registers, except some in the top of the room which, as usual, waste fuel by cooling the room and leaving the foul air in it. I found one 8 x 10 inch ventilator opening into the smoke flue at the floor up stairs in one of the rooms, while some of them were not provided with any kind of ventilation except the already so frequently condemned door-and-window ventilation.

On the same date we examined the last one of the city school buildings, located in Newman's Addition, which was built some ten years ago, and was heated by a Grossius heater, and supplied with fresh air from the exterior as usual. In this building there was an opening in the ventilator in the cellar, which very much interferes with its duties in the school-rooms, where it was most needed. In the lower room a foul-air register

opened into the ventilating flue at the floor, but was so filled with dirt as to completely stop all exit of air through it. In the same room were a few small registers placed back of the teacher's stand, and located about halfway between the floor and ceiling, thus allowing the warm air of their room, with as much of the foul air as chanced to rise that high in the room, to escape, whilst from these to the floor was a 5 or 6 foot stratum of foul air which had no means of escape, and which was additionally cooled by reverse drafts of cold air which invaded the room very frequently through these upper ventilators. The up-stairs department was heated and ventilated on practically the same plan, which resulted in the teachers having to depend on window-and-door ventilation for their pupils.

In all these inspections, in which I was assisted by our worthy Superintendent of Instruction, Prof. Simpson, while examining the school buildings, you will observe I have examined fifteen churches and nine school-houses, every one of which I visited in person, from the cellar to the garret, and examined carefully their systems of heating and ventilation, and when necessary actually tested the drafts and currents of air by proper methods, to satisfy myself of their exact course; and whilst a few of them are fair, I have failed to find a single one complete, and the majority of them are simply horrible!

The question now most naturally arises after all these examinations, How shall we completely heat and ventilate our public buildings? In answer to this question, I will say there are three prime factors that must be duly considered. They are:

1. Uniform heating throughout each room.
2. Abundance of pure air for every person.
3. Prompt removal of foul air from each room.

Then, after having secured these, there are four other factors that must not be neglected. They are:

1. Safety.
2. Economy.
3. Durability.
4. Simplicity.

Having taken it for granted that we have secured *all* these, we will now proceed to answer the question of "How shall we completely heat and ventilate our public buildings?"

By a series of colored charts, and after having shown you the faults of your public buildings, I will continue to illustrate the complete plan, which involves the correct scientific principle of heating and ventilation, by the aid of these charts. Having done that, I will endeavor to confirm my statements by a practical demonstration of both the true and false principles of heating and ventilation by a model house. Before we take up the charts, permit me to say that in a properly heated room there should not exist in

any part of the same room a difference of over 5° to 10° , including the ceiling and the floor.

Provisions should be made to admit at least 1,500 cubic feet of air every hour for each occupant of a given room, which can easily be calculated when we know that on an ordinary calm day about 150 feet of air passes through a conduit one foot square in a minute, or in other words, 9,000 cubic feet, or just enough for six persons for a single hour. In addition to supplying the pure warm air to a room, there should be ample means for the prompt removal of all the foul cold-air, and under no consideration should the carbonic acid be allowed to exceed (and continue at that point) 10 parts in 10,000 of air, and much better if it is prevented from exceeding 5 parts in 10,000, especially in our school rooms. But the real facts are that it is seldom kept so low as 10, and often reaches 20 parts, and even more, to 10,000 parts of air.

If you will turn your attention to these charts, which have been carefully prepared from practical results of a long series of chemical and thermometrical investigations, and show the average relative purity of the air, as well as the temperature of the same, under the various systems of heating and ventilation they represent, you will, perhaps, more fully understand what I desire to make plain to every one here to-night.

In chart No. 1, you will readily recognize a familiar every day picture of the mother at her ironing, with a red-hot stove near by, and a window near the stove, let down from the top, through which is escaping a volume of hot air at the upper part of the opening, while a stratum of cold air is pouring in at the lower part of the opening to supply the vacuum produced by the escape of the former. From the lowered window of the leeward side of the room is a constant volume of cold air rapidly descending to the floor, and at the same time keeping that side of the entire room cold by forcing the warm air to the opposite side of the room. The mother's face is flushed with the heat from the stove and the exercise of the ironing, for which reason she has just opened the window to get a breath of fresh air, as she terms it. While the upper portion of her body is too warm, her feet are cold, and at the same time her little child is crying with the cold as it tries to play on the floor around her feet; and yet that mother goes to bed with a cough, and her child suffers with catarrhal trouble, and she "can't for the life of her see how it comes."

Only last Saturday I was visiting a child with congestion of the lungs, and lying in a cradle near the floor. I remarked that the room was not warm enough for it, when they promptly pointed me to the thermometer that was hanging about six feet from the floor and registered 72° Fah. I laid the same instrument on the floor be-

side the cradle for ten minutes, and showed then it registered 56° , or a difference of only 16° , and yet they were surprised that their child had been taken sick, for they were sure it had never been out of the house or exposed in any way to the cold.

Chart No. 2, represents the good old-fashioned grate "of ye olden times," when a man never lacked for exercise while trying to keep warm by it, for just as fast as he got one foot warm by crossing his legs and holding his foot up to the fire, his other foot would get cold, and he would have to change off and warm that, and at the same time while his face was flushed with the heat, the cold chills were playing up and down his back until he must turn that to the fire, when the other side would get cold; and thus he must ever turn like the spit before the fire to keep warm. You will readily see by this chart that it divides the room into two triangles; as the rays of heat travel in direct lines and the heated air rises, the natural consequences are that the side of the room next to the grate is warm from the level of the fire to the ceiling, while the opposite side is cold almost from the ceiling to the floor. You will see that each one of these form the perpendicular of a triangle; while we have a cold floor on the one hand, and a warm ceiling on the other, forming the bases, and a direct line from the fire to the opposite upper corner of the room forms the hypothenuse that divides, as it were, the cold foul-air of one-half of the room from the warm air of the other. It is no longer a question that the fire-place alone is a very defective method of trying to heat and ventilate a room.

We will now pass on to chart No. 3, which represents an attempt at heating a room without stove or grate. In this case the architect has decided to heat the room with warm air admitted at the floor in the centre of the room, and in full accord with the old theory that the foul air *rises*, he has decided to permit that to escape at the top of the room, just as I have found to be the case in several of our school rooms and churches in this city. Indeed, I am sure you would be surprised to find how many intelligent people, even at this day, will appear to be thunder-struck when you tell them the warm pure air is at the top of the room, and the foul cold air at the bottom of the same. Only a few days ago I met a gentlemen who still contended that such was the case, and insisted on not being reconciled to believe anything else. I asked him if he had ever made or saw made any chemical analysis of the air of various rooms? He said, "No." I then asked him how he knew that he was correct? He replied, "Why, because the physiology says so." That is the secret of the whole business. Some person said so, and hence, it must be so, whether it is so or not, and the general result is that no person takes the pains to investigate the

facts and correct the popular mistake, and consequently custom has to some people made a law.

You will see by this chart that like the smoke from the fire in the Indian's tent, the heat arises to the top of the room and out of the first opening it finds, and if the exit is equal to the inlet, the remainder of the room continues cold, and the foul air it contains remains unmolested. In trying to overcome this the architect has decided to change the plan of ingress of the warm air to the opposite lower side of the room from the place of exit at the ceiling, with a view of making the warm air travel a greater distance through the room, but the improvement, as you will see by chart No. 4, is so slight, and the results so unsatisfactory, that he must seek some other method in order to accomplish his ends, and warm the room and remove the foul air.

In chart No. 5, you will observe he has, in part, accomplished this by lowering the place of exit, and just in proportion as that is lowered, the portion of the room above is heated and ventilated, while that portion below is imperfectly heated and contains a stratum of foul air. You will remember I called attention to this fact in my report of the condition of the St. Luke's church, of this city, which has its foul-air registers placed some three feet from the floor, and in consequence will leave an equivalent stratum of foul air in the room. You might just as well set a barrel on end and try to empty it by boring a hole, say a foot from the bottom. Of course, the water would all run out to a level with the bottom of the hole, which would leave a foot of water remaining in the barrel. The same is just as true of cold foul-air in a room.

In chart No. 6 the sanitary engineer has solved the problem and placed the inlet and outlet of the air both at the floor. The warm pure air is taken in at the floor and the foul air is removed at the floor at the opposite side of the room, and the consequence is that the entire room is heated and ventilated evenly throughout. That this method of heating and ventilating a room is a success is beyond question, and if there is a single person in this audience here to-night who questions its practicability, all I will ask him to do is to come to my house and I will show him the whole system at work in my own house, where it has proved successful beyond a question, and, besides, has very greatly diminished my coal bills, over the old plan of top-ventilation, which preceded it in the same house, besides supplying each inmate with over 1,500 cubic feet of warm pure air every hour, and removing the foul air to a standard not exceeding 4 or 5 parts in 10,000 at any time, day or night. Perfect as this plan is, it has still been improved upon, not in the way of ventilation, but in the economy of fuel and the comfort of the floors, by running the cold foul air through registers placed just beneath the windows and opening into

the space beneath the floors, and from there into the foul-air ventilator, which warms and dries the floors, and thus is a saving on the fuel by causing this partially warmed air to pass through under the floor before it escapes up the ventilating shaft.

This ingenious and economical method of heating and ventilating was suggested and put into practice by that veteran sanitary engineer, of Toledo, Ohio, Mr. Isaac D. Smead, who has done more to develop and perfect the true scientific principles of heating and ventilating buildings than any one man on this side of the Atlantic Ocean, if not in the world.

As the old saying is, "Seeing is believing," hence before closing this lecture I will show you, by the aid of this model house, beyond a question that the principles I have endeavored to impress upon you are correct and based on scientific facts. You will observe that this is nothing but a tin box, made air tight, in the shape of a house, with a glass front in it. Here at this end is an opening at the floor to admit fresh air. At the opposite end is an opening at the floor leading into a chimney or ventilating flue, just as a fire-place or grate would. At the top of the room are six openings to represent windows. Now I will take this small wax candle, and from an opening in the floor I will place it in the lower part of the room near the floor and close the opening. I will now close all the windows and just leave the opening at the floor for pure air and the other opening at the floor for the escape or foul air, open, and you will observe the candle burns brilliantly and uninterruptedly, or until it is consumed.

I will now close the exit for foul air at the *floor* and open all the six windows at the *top*, and you will find that the candle will burn for a while, but the carbonic acid (which is formed by the burning candle in the same manner as it is by a breathing person) being heavier cannot rise against gravity and escape at the windows, and hence settles down at the floor, and just as soon as it fills the room to the height of the blaze in the candle, the light begins to turn blue, flickers, and finally dies from carbonic acid poisoning.

Again, if I close the opening for the admission of pure air at the floor, and also the opening for the exit of foul air at the floor, and open the six windows, all at the top of the room, the candle goes out much sooner than in the previous experiment; for in this experiment the supply of fresh air is diminished as well as the escape of the carbonic acid prohibited, and here you see the folly and unscientific principle of opening the windows at the top to ventilate a room.

Now, if I close the windows at the top, and also the opening for the foul air at the floor, and only open the ventilator for the admission of pure air, the candle is again extinguished by the foul air which accumulates on the floor of the room,

as there is no circulation of air in this case, and the poisonous gas cannot escape. Or, if I reverse this experiment, close the opening for the admission of pure air, and open the foul-air ventilator at the floor, the candle again dies from carbon dioxide, which for want of circulation cannot escape, and the result is fatal to the candle.

It seems to me that these experiments which have been strengthened time and again by chemical analysis, are sufficient to demonstrate to any unbiased mind the fallacy of so-called top ventilation, as compared with floor ventilation. I am sure if the principles here demonstrated by this simple model were put into practice in our city schools and churches there would be fewer of our school children coming home in the evening with headache and general languor, and fewer drowsy persons in our churches during divine service than we see now, which can usually be attributed to defective ventilation and the result of a slow process of poisoning from carbonic acid, saying nothing of its effects on weak lungs and its general depression on the whole economy. For let us remember before we close, what we said at the beginning of this lecture—that pure air is one of the three essential compounds for the support of human life.

Mansfield, Ohio, Feb. 11, 1889.

THE ETIOLOGY OF DIPHTHERIA.

Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, Feb. 13, 1889.

BY SAMUEL N. NELSON, A.M., M.D.,
OF BOSTON, MASS.

Concerning the origin of diphtheria much discussion has arisen. Although its infective character has been doubted by some, it is now quite universally accepted; and I shall confine my remarks to a brief review and discussion of the etiology of the disease from the standpoint of the biologist.

I shall adhere to the classification of microorganisms that is now universally adopted, viz., using the term "bacteria" in a generic sense, including both the

Micrococci, the ball forms and the
Bacilli, the rod forms.

That bacteria were early found in diphtheritic membrane, even before the recent improvement and perfection of the microscope permitted the researches and investigations resulting in the discovery of many pathogenic microorganisms, is not to be wondered at, when we realize that the healthy human mouth is constantly infested with bacteria of various kinds; not less than thirty different varieties having been isolated and cultivated by my friend Prof. W. D. Miller, whose labors have won for him the distinction of being the only American who has been honored with a professorship in the University of Berlin. We

must remember, however, that it is one thing to prove the existence of microorganisms in a diphtheritic false membrane, and another thing to prove that these germs are the *cause of the disease*. The difficulties are very great, and in the case of diphtheria as perhaps in no other disease, do we realize the importance of the isolation of the bacteria and their cultivation in a pure state, together with the reproduction of the disease by inoculation of the cultivated germs; before an attempt can be made to judge whether they are present as the cause of the disease, or are there, as most of them undoubtedly are, only as a result of the diseased state affording favorable conditions and soil for their growth and development.

The first reference to the idea that diphtheria is of parasitic origin, that I have found, is an article by Prof. Lacock,¹ and the idea was afterwards revived by Jodin.²

Oertel³ says concerning bacteria in diphtheria: "They were discovered as far back as 1868, by Buhl, Hueter, and myself (I called them at that time micrococcus) in false membranes, the blood, and the tissues; in like manner they were demonstrated by von Recklinghausen, Nassiloff, Waldeyer, Klebs, Eberth, Heiberg and others in the most different organs and tissues. In secondary infection of wounds, tracheotomy incisions, and ulcers, the grayish skin-like false membranes, as well as the tissues themselves, are crowded with these organisms."

In a "Treatise on Diphtheria," 1880, Dr. A. Jacobi reminds us that "Buhl was the first to discover schizomycetæ in diphtheritic membrane, but expressed no opinion as to the part they played in the process." Hüter found them in the gray diphtheritic covering of wounds, in the surrounding apparently healthy tissues, and in the blood. Hüter and Tomasi found them in the diphtheritic membranes of the pharynx and larynx, inoculated them on the mucous membranes of animals, and described them as small, round or oval, dark-colored, active little bodies. The latter observers look upon these organisms as a part of the infectious element. Oertel found them in diphtheritic membrane and in inflamed mucous membranes, in the lymphatic vessels, lymphatic glands, kidneys and other organs; he considers them at the bottom of the diphtheritic process and constituting the contagious element.

Nassiloff, too, after inoculation in the cornea, noticed an enormous multiplication of the microscopic organisms, and their appearance with pus-cells in the lacteals, and in the lymphatics of the palate, and even in the bones and cartilages. He asserts that the development of organisms is the primary step in the diphtheritic process.

¹ Medical Times and Gazette, May 20, 1858.

² "De la nature et du traitement du croup, etc.," Revue Méd., t. i. pp. 22 and 134, Paris, 1850.

³ Cyclopædia of the Practice of Medicine, Ziemssen, American Edition, vol. i, page 588.

Eberth made successful inoculations in living tissues: the microorganisms, introduced into the cornea, proliferated actively and caused an inflammation of irritative character, in the surrounding tissue. He asserts⁴ that diphtheria cannot occur without bacteria. Klebs inoculated the micrococci in pigeons and dogs and demonstrated the presence thereof in the blood of the animals after death. Orth found them in the pleura, lungs, kidneys, and urinary bladder."

Giacchi⁵ believes that a parasite is as necessary in the pathogenesis of diphtheria as the *Oidium vitis* is in the production of the disease of the grape.

Letzerich⁶ also differs from other German observers in regarding a true fungus, *Zygodemus fuscus* as the specific contagion of diphtheria.

The *Micrococcus diphtheriae* Oertel⁷ is thus described: "It has an oval form with a length of 1 to 1.5 μ , and a breadth of 0.3 μ ; larger individuals, found nearer the surface, being 4.2 μ long, and 1.1 μ broad. Where the individuals are more scattered, they occur mostly in pairs, rarely a number connected into a torula-like chain. When present in masses, the cells lie so close together that it is difficult to determine whether they are connected or not. They are then imbedded in a gelatinous envelop, and thus combined in masses into a colony."

Talamon⁸ does not recognize the *Zygodemus fuscus* of Letzerich nor the *Mycrosporon* of Klebs, as the cause of diphtheria, which he believes to be a mycelium with characteristic growths from 2 to 4 or 5 μ size, and having two kinds of spores:

a. Round or oval spores, which are the spores of germination, which occur in zooglea, and

b. Rectangular spores, which represent the third term of development of the fungus. These he has cultivated and inoculated on the mucous membrane of the mouth and nose of six rabbits, two guinea pigs, four frogs, one cock, and four pigeons, with reproduction of the membrane and death of some of the animals.

Klebs⁹ mentions that at first he supposed there was only one form of microorganism present in diphtheria. This he called the *Microsporon diphtheriticum*, and he claimed that it produced both rods and cocci, as different forms in the development of the same organism. Afterwards, however, he says he recognized another form of diphtheria, which was characterised by the presence of bacilli. The latter form he found at Zurich. It corresponded with the first form only in the gross anatomical changes. The latter

form is characterized by the tendency to an extremely rapid extension of the membrane into the trachea, even while the affection in the pharynx is still in active process. Death usually occurs from suffocation.

Morphologically Klebs says that the bacilli are long and narrow, and that they hardly attain the size of the bacillus tuberculosis. Two spores are always found in each rod. When the diphtheritic membrane is dried gradually over sulphuric acid at the ordinary temperature, the spores increase very rapidly, and then rods may be found which contain no spores, while others contain four spores. He is convinced, he says, that a true diphtheria exists only when rod-shaped organisms are present in the membrane. This allows of two possibilities; in the microspore form we have micrococci, together with somewhat long rods which do not contain spores, and in these cases a general infection is rapidly developed. In the bacillus form, on the contrary, which is first dangerous on account of its rapid extension on the mucous membranes, we find a great number of small rods which contain from two to four spores.

We learn from the address of Dr. E. G. Barnes¹⁰ that Loeffler, whose investigations were extensive and are published by the New Sydenham Society, found, in the cases he examined, two organisms present in large numbers; the one were chain-forming micrococci or streptococci; the other the bacilli described by Klebs as characteristic of diphtheria. The streptococci may be exonerated from being the active cause of diphtheria by the fact that they are present in various other diseases which are accompanied by lesions of the mucous membrane; for example, small-pox, typhoid and puerperal fever, and therefore may be regarded as accidental; that they are found only in a limited number of cases of human diphtheria, and that, when inoculated on lower animals, they never produced a disease even resembling it. Much stronger evidence was shown by Loeffler in favor of Klebs' bacillus being the true cause, and he even produced a similar disease by inoculating them on lower animals; but, on the other hand, he found they were not present in a number of undoubted cases of diphtheria; that in the false membrane he produced by introducing them through a wound in the trachea in rabbits and fowls, he did not find them in the same typical arrangement as in man; that they produced no effect in several animals otherwise susceptible to their action when applied to the uninjured mucous membrane of the fauces, respiratory passages, eyes and vagina; that paralytic symptoms did not occur in the inoculated animals; and, lastly, that in one case he found a perfectly indistinguishable bacterium in the saliva of a healthy child.

⁴ Zur Kenntn. der bacterit. Mykosc., 1872.

⁵ "Natura e Terapia dell' angina diphtheria" Lo Sperimentale, November, 1882.

⁶ Virchow's Archiv, Bd. xlv. et seq.

⁷ Zur Ätiologie der Infektionskrankheiten, 1881; and Journal Roy. Mic. Soc., ser. ii. vol. ii. p. 88.

⁸ Progrès Méd., 1881, ix. pp. 122 and 49.

⁹ Verhandlungen des Congresses fuer innere Medicin, 1883, pp. 139 to 154.

¹⁰ British Medical Journal, July 28, 1888.

Many allusions are now being made in the secular press to the work recently done in Pasteur's laboratory, which has been described in the *Gazette Hebdomadaire de Med. et de Chir.*, January 18, 1889. MM. Roux and Yersin constantly found the bacillus of Klebs and Loeffler, which they describe to be a little thicker than the bacillus tuberculosis and of the same length. This description, you will observe, differs a little from the original description of Klebs quoted above. They have cultivated the bacillus, and their inoculation experiments have produced paralysis, without which they do not consider the proof of real diphtheria conclusive.

My own experiments in the cultivation and inoculation of the bacteria of diphtheria were made several years ago, and are reported in a paper read before the meeting of the Eighth International Medical Congress at Copenhagen in 1884.¹¹

In November, 1883, I assisted Dr. H. O. Marcy in performing the operation of tracheotomy upon a child 3 years old, who was suffering from a severe attack of diphtheria. He was *in extremis* at the time of the operation, the breathing being very short and difficult. Membrane covered both tonsils. The operation was successfully performed and a tube inserted, when the breathing became perfectly free. Previous to the introduction of the tube, a complete membranous cast of the trachea was removed through the opening. The subsequent history was unfavorable, for the child died of blood poisoning about thirty-six hours later.

Soon after the operation I inoculated one of my culture bulbs with a small piece of the membrane removed from the trachea. These bulbs are made after those of Sternberg, of the United States Army, which I then preferred to the method of culture on solid culture-media; I had not become thoroughly familiar with the latter method until some months later in Berlin, when I was soon convinced that it affords many advantages that cannot be obtained from cultures in bulbs. These bulbs are made from ordinary glass-tubing about three-tenths of an inch in diameter. In one end a bulb is blown, and the other extremity is drawn to a fine capillary point. These I made myself in quite large quantities at a time. They were filled two-thirds full with a sterilized beef-bouillon, then hermetically sealed, and in this condition they will keep indefinitely if successfully made.

For cultures I found it best to use bulbs which had stood the test of a temperature of 70° to 100° F. for several weeks; for if they remain clear and pellucid at the end of this time, any subsequent changes that might occur are due to the substances introduced.

Four days after the introduction of the diphtheritic membrane as seed, the liquid in the culture bulb kept at temperature of 70° became cloudy or turbid, and when examined with the microscope at 1,000 diameters, there were found immense quantities of a micrococcus, identical with those seen in the fresh membrane. This micrococcus has about the diameter of the micrococcus of pus, and is very slightly elongated. They were grouped in clusters of a few members each and belong to the group of staphylococci.

A second culture bulb was inoculated with a fraction of a drop of the liquid in the first, and three days later the same cloudy appearance was noticed, and examination showed identical micrococci. In this way the cultures were carried through ten generations, in each case several bulbs being inoculated at a time, and each one breeding true in three days. In all, about fifty bulbs were used.

My subsequent experiments of inoculation were carried on with the advice and assistance of Dr. Wm. F. Whitney. Four guinea pigs were inoculated in the cornea with the contents of one of the bulbs containing the culture of the sixth generation. One of these animals died thirty-six hours later of blood poisoning. The others became very ill, losing their appetite and the eyelids becoming much swollen and oedematous, with profuse discharge which contained the micrococci. The cornea became cloudy and was covered with a membrane. Two of these animals were killed on the third day after inoculation, this being the period at which the micrococci developed; one was allowed to get well, but the eyes were completely destroyed.

In the aqueous humor of the eyes dissected there were found micrococci, which were also found in sections of the cornea of the eyes, which had been placed in alcohol immediately after removal, and when hardened were cut with a microtome.

These experiments are limited in number and, I know, need further confirmation; but as far as they go they seem to show that there is a micrococcus of diphtheria which can be cultivated, and which when inoculated in the guinea pig produces diphtheria.

If, however, further proof is needed I can give it; for on the third day after killing the animals, and after no other exposure, I myself became ill, developing a severe attack of diphtheria, which appeared first in one tonsil and the uvula, and then on the other tonsil, being accompanied with severe constitutional symptoms and followed by a slow and tedious recovery. This has proved, to my satisfaction, at least, the correctness of these views.

Thus we see in brief review the chain of the sequence of events:

A typical case of diphtheria in a child;

¹¹ *Compte-rendu de Congrès Périodique International des Sciences Médicales*, 8me session, Copenhagen, 1884, t. i. Section de Pathologie Général et d'Anatomie Pathologique, p. 114.

The presence of micrococci in the membrane;
The cultivation of the micrococci in pure cultures to the tenth generation;

The inoculation of guinea pigs with micrococci of the sixth cultivated generation, and reproduction of the disease;

The unwitting inoculation of the experimenter, thus bringing the disease back to its original form in a human being.

PHTHISIS PNEUMONICA ET LARYNGITIS CHRONICA.

*Read before the Medical Society of the District of Columbia,
December 12, 1888.*

BY A. A. HOEHLING,
MEDICAL INSPECTOR, U. S. NAVY.

C. H., Corporal U. S. Marine Corps, native of Wilmington, Del., age, 41 yrs. 8 mos., enlisted at Annapolis, Md., August 14, 1887. Admitted from U. S. Naval Academy, Annapolis, Md., at 2:30 P.M., September 19, 1888. Died November 21, 1888.

"The patient has had sixteen years' service in the U. S. Marine Corps. Dates the beginning of his ill-health in September, 1887, when he 'caught cold' sleeping on deck on board the U. S. S. 'Dolphin' on a passage from Annapolis to Philadelphia. He has been from time to time under treatment at this station, but has continued on duty until two days ago. He has in the last twelve months had fever from time to time, night sweats, cough and progressive emaciation, with loss of appetite. He has percussion dulness at tops of both lungs, irregular expiratory blow and subcrepitant râles, most abundant on right side in front. He has had occasional hoarseness for six or eight months. This has grown rapidly worse in last ten days, with irritation of larynx, hoarseness of voice almost to extinction, and much difficulty and pain in deglutition. Epiglottitis is thickened and distorted, and left aryteno-epiglottidean fold swollen, and encroaching upon cavity of larynx to such an extent as to obstruct view of vocal cords. Patient has had cod-liver oil since September 1. Last two days spraying of larynx once a day with sol. nitr. silver, gr. v to 3j, also three times a day with a 2 per cent. sol. cocaine before eating."

At present he has the characteristic appearance of a consumptive, is considerably emaciated, cannot speak above a whisper, and swallows liquids with much difficulty; He has bronchial breathing at the apex of both lungs, and below this, especially on right side, subcrepitant râles take the place of the normal vesicular murmur. Laryngoscopic examination reveals an cedematous and congested state of aryteno-epiglottidean folds and the epiglottis much thickened, interfering with deglutition. Ordered diet of milk, eggs, rare beef and corn-starch. To have ol. morrhue and

whisky, and to use steam atomizer with wine of ipecac.

September 23. Morning temperature has been normal and evening temperature has been about 101° daily. Expectoration profuse. Cough harassing, and breathing labored on account of condition of throat; deglutition somewhat improved. Treatment continued, to use also ammon. hydrochlor. sol. in atomizer.

September 27. Condition slightly improved. Continue treatment.

October 3. Patient states he has gained 8 lbs. since admission to hospital. Laryngeal symptoms remain unchanged; less expectoration. Temperature range A.M. normal, P.M. about 100.4°. Is taking ol. morrhue and beer. Is using a spray of tr. ferr. chlor., alternating with a spray of vin. ipecac.

October 10. Condition continues about the same. Throat sprayed twice daily with Dobell's solution and sol. cocaine, followed by application of equal parts of tr. iron and glycerine. Deglutition seems improved. Continue treatment.

October 20. Evening rise of temperature less, about 99.6°. General treatment continued. Is losing in weight and strength.

October 27. Patient is gradually failing. No ulcers apparent in throat yet. Continue general treatment.

November 6. Patient very weak. Expectoration profuse, cough harassing, deglutition much impaired, but the patient is very hopeful. Ulceration of the cords apparent, though a good view cannot be had. Continue treatment.

November 12. Patient is failing slowly, is now confined to bed. There is apparently a large cavity in right lung and left lung seems much involved; cough harassing, expectoration profuse. Supported by milk-punches. Swallows with difficulty. Treatment continued.

November 16. Scarcely able to swallow anything; very weak, failing slowly.

November 17. Very weak. Refuses to take nourishment by mouth. Ordered enemata of beef-tea and whisky every three hours.

November 19. Very weak; supported by enemata of egg-nogg, beef-tea, milk, etc.

November 20. No change.

November 21. Died at 2:25 P.M.

Necropsy twenty hours after death. Body greatly emaciated; rigor mortis passing off. Upon opening the thorax the pleura was found firmly adherent to the chest wall and diaphragm (entirely obliterating the pleural cavity), requiring considerable force for its detachment.

Pericardium contained about 60 cc. of clear serous fluid.

Heart normal. The cavities contained each a small amount of dark blood clots, and large fibrinous clots extended from them several inches into the large vascular trunks.

Lungs were studded with miliary tubercle, increasing in quantity from apex to base; on section the tissue seemed exsanguine, of a grayish color, dotted with the black tubercle and filled with numerous cavities, varying in size from a pin to a small orange, containing offensive pus, with the exception of a small portion at base of each lung which was highly congested, with tubercle throughout its substance. All the smaller bronchial branches were obliterated by the tubercular deposit in the surrounding portion of the tissue. Fibrinous bands were found between the lobes and the larger cavities were lined by a similar membrane.

Larynx.—The upper part of posterior portion of the thyroid, the arytenoid, the epiglottis, and the ligaments and attachments corresponding to these, with the vocal cords, were destroyed by ulceration.

Abdominal viscera not examined, and cranium not opened, as it was deemed unnecessary.

NOTES ON TWENTY-SEVEN CASES OF DIPHTHERIA,

OCCURRING BETWEEN JULY 1, 1888, AND JANUARY 1, 1889.

Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, January 19, 1889.

BY HENRY JACKSON, M.D.,
OF BOSTON.

From July 1, 1888, to January 1, 1889, I treated twenty-seven cases of diphtheria out of 1,031 cases of all kinds, seen in the second district of the Boston Dispensary, situated on the West side of Hanover street. Of these cases, five died; four of septicæmia, one of laryngeal obstruction.

Five cases were very mild; two were not confined to the bed.

In most of the cases the membrane was confined to the uvula and pillars of the pharynx. In these cases a large part of the roof of the mouth and lips was covered with membrane. Fifteen cases occurred in houses where the sanitary condition was bad. Ten case where the sanitary condition was apparently good. Two cases in a house that seems to be in good condition, and yet one where I have found much sickness in the last two years, notably diphtheria last winter.

Where there were several children in a family, usually one or more cases of diphtheria appeared shortly after the first cases. Namely:

In a family of three children all had the disease.

In a family of five children four had the disease.

In a family of three children two had the disease; later in the year two members of this family had typhoid fever. In all cases the disease was strictly confined to the house where it first appeared, and in only one instance did the disease

spread to other families living in the same tenement.

Of the twenty-seven cases four were young adults; the average age of the children was 5 years, the youngest being 18 months.

As of importance in making an early differential diagnosis between diphtheria and follicular tonsillitis, I have found that in diphtheria:

1. The temperature was much lower, often normal.

2. The constitutional symptoms were usually less severe at first.

3. The glands about the neck were more swollen and tender.

In all cases I have felt justified in making a diagnosis of diphtheria where there was membrane on the uvula or on the pillars of the pharynx.

As last year I could report that, having had in my charge in this district a large epidemic of scarlet fever, I was not aware of having carried the disease to a single child, so this year not a case of diphtheria has occurred in a family that was under my care for other diseases.

In other words, so far as an opinion can be formulated from so small a number of cases, the disease is very infectious to young children brought in immediate contact with those sick; the disease does not spread from house to house; the disease is not easily carried by a third person.

The following list shows the character and distribution of the various infectious diseases in the portion of the city above described, during like periods of two successive years.

JULY, 1887, TO JANUARY, 1888.

Diphtheria	8
Tonsillitis	57
Scarlet fever	68
Measles	5
Typhoid	24

JULY, 1888, TO JANUARY, 1889.

Diphtheria	27
Tonsillitis	33
Measles	5
Scarlet fever	1
Typhoid	23

MEDICAL PROGRESS.

NERVE-GRAFTING.—At the meeting of the Clinical Society of London, on January 25, MR. MAYO ROBSON showed a girl, æt. 14, on whom he had successfully grafted two inches and a half of the posterior tibial nerve into a corresponding gap in the median nerve in the forearm. He also showed the tumor which had involved the median nerve, and had necessitated its removal. The history of the case, briefly, was that the patient had noticed the tumor growing for six years, but that it had grown more rapidly during the past twelve months, during which time it had

caused considerable inconvenience as well as deformity. The tumor, about the size of hen's egg, extended from the annular ligament in front of the right wrist up the forearm for about three inches, reaching laterally from side to side, the skin being firmly stretched over, but not adherent to the tumor, which appeared to be solid or semi-solid. On making an incision over the swelling the tumor bulged through the wound, and was easily separated from its cellular bed, leaving the mass attached above and below to a cord, which appeared to be inseparably blended with it. The attachments had therefore to be cut through. A microscopic examination showed that the cord was composed of nerve tissue, and on the patient recovering from the anæsthetic the parts in the hand supplied by the median nerve were found to be devoid of sensation. Arrangements were made by Mr. Robson to graft the sciatic nerve of a rabbit into the gap of the median nerve, but fortunately his colleague, Mr. Ward, kindly allowed him to arrange his operation at the same time that he was amputating a thigh, and to utilize the posterior tibial nerve, which was taken straight from the amputated leg into the prepared forearm, the transfer from one theatre to the other being made in a warm carbolic solution. Two inches and a half of nerve were utilized, the ends being attached to the proximal and distal portions of the median with a fine catgut suture, without the slightest tension either on the stitches or the nerve; the wound was well washed out with perchloride of mercury lotion and carefully sutured. Healing occurred by first intention. The grafting was performed forty-eight hours after the tumor had been removed, and thirty-six hours after the nerve had been grafted, sensation had so far returned in the parts supplied by the median that the touch of a pencil could be localized. Day by day sensation became more and more distinct, until when shown to the members of the Leeds and West Riding Medico-Chirurgical Society, five weeks after the operation, it was so perfect that the slightest touch could be localized, and although there was manifest diminution in volume of the abductor and flexor brevis pollicis, they were not completely paralyzed. Mr. Mayo Robson, after relating experiments on animals, which went to prove that reunion and even regeneration of nerves might occur, remarked that in such cases, where there had been absolute loss of nerve, return of function did not occur. He thought the case he had related presented very important physiological and clinical features: physiological, in that the living nerve must have immediately united and taken on function, so that thirty-six hours afterwards the distal portions of the median were functionally active; clinical, in that, if nerve grafting to such an extent could be certainly relied on, many hitherto hopeless cases may be

cured—for instance, in injury of an extremity with destruction of one or more chief nerve trunks, in the case of a tumor involving nerves, in paralysis due to cicatricial destruction of nerve, and in many other cases. He ventured to hope that, if, as in this case, two inches and a half of nerve would live, further experiments might show that greater lengths might survive; or if such were found to be impossible, that the grafting might be done piece by piece as in the case of bone grafting. The condition which he advised to be observed in such operations were: first, entire absence of tension in the grafted nerve—*e.g.*, two inches and a half being employed to fill an interval of two inches and a quarter; secondly, great care in dissecting out and handling the nerve; thirdly, immediate transference of the living tissue into its new bed; fourthly, the employment of only a single suture to fix the ends of the nerves; and fifthly, strict asepsis. He thought that this case, if he had correctly interpreted it, went to disprove the theory that a primary union of the divided ends of a nerve is only an appearance of union, and not a physiological one, and that the distal ends must pass through a process of degeneration before regeneration. He remarked that the return of function in the motor portion of the nerve was more gradual than in the sensory, and made suggestions which he thought might explain the difference. MR. BRYANT asked whether the suture had included the whole thickness of the nerve. MR. BOWLBY observed that the case seemed likely to prove a successful one, but at present it was not entirely so. It was the first recorded case of nerve grafting in this country, although a number of experiments and operations had been published on the Continent. This was the first case of primary grafting of a nerve—that was, within forty-eight hours of the injury. He pointed out that in a certain number of instances there had been restoration without re-establishment of continuity of the nerve. He had quoted several instances of the kind in his lectures at the College of Surgeons.¹ Still, on examining that particular patient, he found more sensation than he had ever seen before under similar circumstances. The condition of the muscles was not quite healthy, but still satisfactory. He mentioned as a curious fact that the power of voluntary motion often returned long before there was any reaction to electricity. He had remarked a bulla on the tip of the patient's index finger, which seemed to point to a trophic lesion. He questioned the accuracy of the view generally held, that after primary suture of the two ends of a divided nerve the lower end necessarily underwent degeneration. In a case in which he had brought the ends together, although fully an inch had been cut out, complete restoration of function ensued in a few days. In another case in which

¹ Vide the Lancet, Vol. ii, 1887.

union by primary intention took place, although there was no paralysis, yet for a long time there was no reaction to electricity. He also pointed out that sensation was a very vague term, and might exist in very varying degrees. Mr. Robson's patient still experienced numbness and tingling in the fingers, showing that sensation, if good, was not perfect. MR. BLAND SUTTON urged that it did not follow, because restoration of function had taken place after joining the cut ends of the nerve by means of a piece of the posterior nerve, that the latter had become incorporated with the median nerve. In experiments that had been carried out on animals it seemed that anything which acted as a conductor, so to speak, along which the reparative material passed, bits of chicken bone, catgut, etc., had been found to answer the purpose. The bullæ which had been noticed generally took some time to form, and he suggested that the patient was now getting the symptoms which would have followed had the grafting not been effected. He hoped that the future progress of the case would be carefully watched, and the additional information added to the report when published in the Transactions. THE PRESIDENT mentioned the case of a man from whom, in the course of an operation for the removal of a tumor, he had accidentally removed a large piece of the external popliteal nerve—too much, in fact, to admit of the ends being brought together. Loss of sensation and muscular degeneration followed in the parts supplied by the nerve, and the patient left the hospital in a rather unsatisfactory condition as regarded the leg. Some months later he looked the patient up, and found to his surprise that function had been restored, and the patient said he was as strong in the leg as ever he was. MR. MAYO ROBSON, in reply, admitted that the case was not yet an unqualified success, but its progress had been so uninterruptedly satisfactory that he quite anticipated it would ultimately become so. He had passed a very fine catgut suture through the whole thickness of the nerve. He observed that even if the piece of the posterior nerve had not become incorporated with the median nerve, yet, in view of the successful issue of the case, most persons would be inclined to commend the course that had been adopted.—*Lancet*, Feb. 2, 1889.

HYDROXYLAMIN IN SKIN DISEASES.—DR. EICHOFF, of the Municipal Hospital, Elberfeld, has found an admirable substitute for pyrogallie acid, chrysarobin, and other powerful reducing agents used in external applications for skin diseases in hydroxylamin, which is, chemically speaking, an ammonia in which one of the atoms of H is replaced by HO. The most suitable compound for dermatological use is the chloride, the formula of which is $\text{NH}_2\text{OH}.\text{Cl}$. This occurs in colorless,

strongly hygroscopic crystals, which are readily soluble in water, glycerine, or spirit, the solution showing an acid reaction. When introduced into the blood, hydroxylamin forms methæmoglobin, the blood rapidly becoming of a deep-brown color. In large doses—that is to say, 0.01 gram per kilogram of body weight—it produces hematuria in consequence of the destruction of the red corpuscles. It also acts on the nervous centres, producing narcosis. The high reducing power possessed by hydroxylamin renders it a powerful poison to low organic forms, and on this account it is to be very strongly recommended in dermatology. The preparation used by Dr. Eichhoff is the hydrochlorate dissolved in a mixture of equal parts of glycerine and spirits of wine in the proportion of 1 per 1,000. This is applied with a brush to the affected parts of the skin, which must first be carefully washed with soap three to five times a day. In this way he has treated five cases of lupus, five of ringworm, and one of parasitic syphilis, with excellent results. These were specially remarkable in two cases of very severe lupus. Dr. Eichhoff is hopeful that this remedy, which may sometimes perhaps be applied in the form of subcutaneous injections, may be found useful in psoriasis, parasitic eczema, and even in lepra and syphilis. He, however, warns those who propose to try it that it is a very powerful irritant, and that even for outward application a strength of 1 per 1,000 is quite enough.—*The Lancet*, February 9, 1889.

ACTION OF PARALDEHYDE.—DR. JOHN GORDON, of Aberdeen, after an extensive series of experiments and observations in regard to paraldehyde, summarizes his results as follows:

1. Paraldehyde caused an increase in the excretion of urea.
2. It did not in any marked way affect the quantities of chlorides excreted.
3. It did not invariably increase the excretion of the fluid constituents of urine, but in the majority of cases which I have recorded it diminished them.
4. The odor of paraldehyde, when given in large doses, was found in the urine, showing that some of it probably passed unchanged through the system.
5. After the full dose of the drug the respirations were slowed, and rendered tranquil and steady.
6. It had no appreciable effect on temperature.
7. In cases of average health without sleeplessness it did not have any hypnotic influence except in large doses.
8. It caused no loss of appetite.
9. There was sometimes a tendency to perspiration under its influence, which atropine controlled.
10. The blood-pressure was only slightly reduced by the smaller doses, the larger dose reducing it more, but only after distinct slowing of the respiration.
11. The pulse was slowed.
12. It diminished the reflex excitability of the spinal cord.
13. It had a peripheral influence in controlling sensation.
14. It speed-

ily diminished, and in large doses destroyed, the irritability of motor nerves. 15. Equal doses diminished the excitability of motor nerves sooner than that of muscle. 16. Small doses first slightly excited and then diminished the excitability of muscle substance. 17. Large doses speedily destroyed (temporarily) the irritability of muscle substance. 18. There was a tendency to complete recovery in the muscle after a small dose, but seldom complete recovery after a large dose. 19. Curarized muscle showed increased excitability over non-curarized muscle when treated with an equal dose of paraldehyde and equally stimulated.—*British Medical Journal*, March 9, 1889.

CHLOROFORM IN DYSPEPSIA.—Chloroform administered in the various forms of dyspepsia overcomes fermentation and flatulence; it is best given in one of the following formulas:

1. *Method of DR. WILS.*—From ten to twenty drops of chloroform, to be taken in a few spoonfuls of sweetened water, in flatulent dyspepsia. After a few minutes eructations occur, followed by improvement.

2. *Method of DR. HUCHARD.*—Administer before each meal one dessertspoonful of the following:

R. Chloroform water	150 parts.
Mint water	30 "
Water	120 "
℞.	

Or, from eight to ten drops of the following mixture in a wineglass of water:

R. Tincture of nuc. vomica	} āā ʒj.
Tincture of gentian	
Tincture of anise	
Chloroform	gtt. xx-xl.
℞.	

An appropriate diet and oxygenated waters at meal-times form part of this treatment.

3. *Methods of DRS. REGNAULT and LASÈQUE.*—This treatment applies particularly to painful dyspepsias with dilatation of the stomach:

R. Chloroform water	150 parts.
Orange-flower water	50 "
Water	100 "
℞.	

One dessertspoonful to be taken, at intervals of fifteen minutes, until the pain ceases.

Or the following for the same affections:

R. Chloroform water	150 parts.
Tincture of anise	5 "
Water	145 "
℞.	

—*Revue gén. de Clin. et de Thérap.*, Feb. 28, 1889.

ANTIPIRYN IN LABOR.—DR. ERMANNO PINZANI recently made a communication to the Società Medico-Chirurgica di Bologna,¹ in which he gave an account of some experiments he had made with the view of ascertaining the effect of antipyrin on the strength of the uterine contrac-

tions in labor. Two series of experiments were made. In five cases he simply kept his hand on the woman's abdomen for some hours, and noted the condition of the uterus before and after the administration of the drug. In eight other cases (on which he made in all twenty-three experiments) he passed an India-rubber ball, first disinfected, and then filled with a watery solution of corrosive sublimate, into the uterus; this he connected with a manometer, which gave him an accurate gauge of the pressure exerted by uterine contractions on the fluid in the ball. Dr. Pinzani was careful to exclude irritation of the uterus by the foreign body as a source of fallacy by previously warming the fluid in the ball to the temperature of the body, and by waiting for some time after its introduction before making observations. In the first set of experiments, 3-gram doses of antipyrin were given by the mouth; in the second, the doses were from 1 to 2 grams. Dr. Pinzani came to the conclusion that antipyrin relieves the pains of labor simply by lessening the force of the uterine contractions. The effect of the drug showed itself in about two hours after hypodermic injection, and four or five after administration by the mouth. He noticed that infants suckled by women who had had antipyrin given them during labor were apt to suffer from diarrhoea. Dr. Pinzani's verdict is, therefore, decidedly against the use of antipyrin in midwifery practice.—*British Medical Journal*, March 9, 1889.

IGNIPUNCTURE OF THE TONSILS.—DR. WILHELM ROTH, of Fluntern, finds that in order to reduce the size of the tonsils without risk of troublesome hæmorrhage, which is not uncommon, especially in young subjects, the best plan is to employ ignipuncture, as has been recommended by Krishaber, and more recently by Verneuil. The tonsils and neighboring parts are first brushed over with a 10 to 20 per cent. solution of cocaine. The finest point of the thermocautery, heated to redness, is then inserted to a depth of about five millimetres in three or four spots a few millimetres apart from one another on the tonsils. The instrument is not allowed to remain more than one or two seconds in the tissue. The whole operation, including both tonsils, can be performed in a very few minutes without any bleeding, and with scarcely any pain. It must be repeated four or five times at intervals of two or three days, and this is usually sufficient to cause the tonsils to return to their ordinary condition.—*Lancet*, Feb. 16, 1889.

TREATMENT OF INGROWING TOE-NAIL.—DR. THEODOR CLEMENS, of Frankfort, strongly recommends the employment of tin-foil in the treatment of ingrowing toe-nail. He first has the toe thoroughly washed with soap and carefully dried. He then envelops the whole nail with

¹ Gazzetta degli Ospitali, February 10, 1889.

tinfoil, putting a strip between the portion that grows in, and the raw surface caused by it. The tinfoil is fixed by means of a very thin layer of common wax, and the patient told not to wash the part, but to use dry bran for rubbing off the dirt. Of course the toe has to be repeatedly dressed with tinfoil, but, if the operation is carefully performed, it is surprising how long the tinfoil will remain intact; even when the patient is, as was usually the case in Dr. Clemens' hospital practice, very poor and very badly shod. The results are stated to have been most satisfactory, and are ascribed by Dr. Clemens not merely to the mechanical action of the tinfoil, but to the effect of the permanent contact of a combination of metals comprising iron, copper, arsenic, molybdenum, wolfram, and bismuth, with a moist and growing portion of flesh. This, he says, brings about in a few weeks the complete healing of the sore, and causes the nail to grow more slowly, and in a more healthy manner.—*Lancet*, Feb. 16, 1889.

TREATMENT OF VALVULAR DISEASES OF THE HEART.—DR. DA COSTA in the course of a valuable and suggestive paper says: "From adonidine I have witnessed, in $\frac{1}{10}$ to $\frac{1}{5}$ grain doses three times a day, some admirable results; but more in cases of functional than of valvular diseases of the heart. Yet even here I have known it to act as an excellent heart regulator." Chloride of barium he finds both a general and a cardiac tonic, a remedy that increases the tone in the blood-vessels, a fairly good diuretic, and one that can be taken for a long time without disordering the stomach. He usually gives it in doses of $\frac{1}{10}$ grain three or four times daily; overdoses are apt to produce diarrhoea. It seems also to lessen cardiac pain." He finally says: "I must not bring this paper to a conclusion without mentioning a point of which I know the great value—to make periodical examinations of persons affected with valvular disease. I am not speaking of those in whom serious symptoms call for constant supervision; rather of those who, under our advice, take little or no medicine. In them, too, it is true that the heart of to-day may not be the heart of a month hence. Yet they are the ones chiefly in whom beginning changes can be most readily met, and whose lives, with the aid of treatment when necessary, can be greatly prolonged. Let them be made aware of the importance of skilled supervision. It will not mean needless interference; it will mean judgment as to when interference is really helpful.—*Amer. Journal of the Med. Sciences*, November, 1888.

NEW OPERATION FOR EMPYEMA.—PROFESSOR M. S. SUBBOTIN, of Kharkoff, describes in *Trach* (No. 45) a new operation he has devised for opening the thoracic cavity in empyema, with the

view of obviating the dangers arising in Estlander's operation and in the modifications of it practiced by Schede and Sprengel from the extensive raw surface which is necessarily allowed to remain in contact with the purulent discharge. The patient having been chloroformed, an incision was made along the seventh rib, which was then stripped of its periosteum and excised to the extent of 7 or 8 centimetres. An extensive opening was here made into the pleural cavity. After the pus had been evacuated the cavity was carefully cleansed and the opening well covered with gauze, and a gauze compress applied. An incision was then made along the border of the pectoralis major about 5 centimetres in length, exposing the sixth, fifth, and fourth ribs, and these were cut away (the periosteum not being left) with forceps until the rib became movable. Another incision was then made in the line of the posterior fold of the axilla, exposing the same ribs, which were again divided as before; the wounds were then sutured and dressed with gauze, a large thick pad of the same substance being applied outside, with a good compress bandage round the thorax. The upper wounds were kept from communication with the empyema. When after a few days the intrathoracic wound was dressed, a drainage tube was put in. The case recovered, but three months after the operation there was still a small sinus which continued to discharge. The advantages claimed by Professor Subbotin for his operation are the small raw surface which is left in contact with the purulent matter, and the firm but movable portion of the thoracic wall which can be pressed inward by bandaging, so as to diminish to a considerable extent the size of the cavity.—*Lancet*, Dec. 15, 1888.

NIGHT-TERROR AND SCREAMING IN A CHILD CURED BY REMOVAL OF THE TONSILS.—The patient, a boy, æt. 7, seemed to be quite well all day, but every night, after he had been asleep some little time, he used to wake up in a state of great terror. In a short time he got over the attacks, and would lie down to sleep again. He was examined, and nothing found except large hypertrophied tonsils. These were conjectured to be the cause of the symptoms. They were both removed. The child promptly got rid of his night-terror and screaming. It was presumed that in deep sleep, when he lay in some unfavorable position, the tonsils obstructed the respiration.—*The Lancet*, Oct. 6, 1888.

TREATMENT OF ERYSIPELAS.—DR. NOLTE reports that for several years he has had good results in the treatment of erysipelas with mucilage of acacia and carbolic acid (3 to 5 per cent.). The affected locality, and the adjacent skin, is painted over twice daily with the mixture, which is then allowed to dry.—*Therapeutische Monatsshefte*, January, 1889.

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THE UNION OF MEDICAL SCHOOL AND
UNIVERSITY.

Continuing the discussion of this subject, begun in THE JOURNAL of last week, it is proper to inquire as to the specific advantages belonging to the university system of medical education. In the first place, says Dr. Welch in his address, "this system may be expected to maintain the proper balance between purely technical training in the medical art and cultivation of the medical sciences upon which this training should be based, or to express the same idea perhaps more intelligibly. . . . between the practical and the scientific side of medicine." We would not give this particular advantage the first place, however. We should say, the *proper* union of medical schools with universities would insure that amount and degree of general education without which no one is fitted for the study of medicine. Under the term "general education" we would include *preliminary education for the study of medicine*. We believe the time will come, though our belief may be Utopian, when the medical schools will require as a condition of matriculation that each student shall have pursued a course of study looking to the study of medicine. The hope for this lies in the proper and true union of the medical school with the university; not a mere "affiliation," not a nominal connection, but an organic union.

The scientific branches of medicine receive too scant recognition and attention. "In a medical school permeated by the university spirit," says

Dr. Welch, "and in intimate association with a university, these sciences cannot fail to receive proper recognition." Without wishing to appear unnecessarily critical, we would add to "the university spirit" the scientific spirit, which could scarcely fail to be engendered by a proper preliminary course to the study of medicine. How much more willingly, and how much more rationally would the medical student pursue his courses of human anatomy and histology if he studied them in the light that he has gained by a study of comparative anatomy, embryology, and biology! How much more intelligently would he study physiology if he were a physicist and chemist. "Physiologists," says Du Bois-Reymond, "should regard themselves as chemists and physicists who work only in a particular direction." Pathology requires the light of biology, physics, and chemistry. In a word, as was pointed out by Dr. Gairdner in his Presidential address before the British Medical Association last year, and aptly illustrated by Dr. Clifford Allbutt in his address in medicine, the true physician must be and is a naturalist—a *Naturforscher*—and this no one can be who neglects the necessary educational basis of a naturalist. "Universities," says Dr. Welch, "have always kept alive the ideal that the interests of life are not wholly material, but that they are spiritual and intellectual as well. May the time never come when this ideal shall be replaced by the estimate of knowledge, solely for its commercial value, or its immediate application to the practical necessities of life. Somewhat of this true university spirit should pervade medical study, if the practice of medicine is to be a profession and not a trade or a handicraft."

Dr. Welch then goes on to speak of the scientific spirit that would be engendered in a university medical school of the character indicated. While it is not claimed that the desired results are possible only in a medical school in a university, it must be admitted that the atmosphere of a university is particularly favorable, and that of an independent medical school unfavorable for their attainment.

Few university men, or thinking men, will take issue with Dr. Welch in his opinion that the last two years of a medical course should be given mainly to the study of the practical branches of medicine; and this study should be more practical

and demonstrative than it is at present. In speaking thus the two-course schools are left out of consideration, as they should be out of existence. A shorter period of medical study than four years seems to Dr. Welch possible only with a preliminary medical training such as is already furnished with excellent results in some of our universities, and with a supplementary experience in a hospital.

Still another benefit to be derived from the proper union of medical school and university is the encouragement of research, which naturally follows the existence of the scientific spirit. With this spirit, and with well-equipped laboratories, workers will be abundant, the university will win renown, and medical science will make progress. There will be workers here, as in other countries, that seek the truth for its own sake, whenever and wherever it can be found, without regard to its immediate practical value. Medicine offers all the attractions and fascinations of a natural science; all that we need to make workers and to encourage research is the scientific spirit, and laboratory facilities. "When America does wake up to the necessity of these things," said a distinguished German physiologist, "then let Europe look to her laurels." America will wake up to the necessity of these things when the general public better understands the cost of sickness and the money-value of health.

A very practical advantage in making a medical school a department of a university is economy of organization. "A university provides for the study of certain subjects which either are included in a medical course, or should be required in a course preliminary to the study of medicine. The most important of these subjects are chemistry, physics, botany, zoology, and comparative anatomy." In the medical schools of this country chemistry is the only one of these sciences that has any place in the curriculum, and even this is an unsatisfactory feature, physiological chemistry being generally altogether ignored. As the matter now stands, organic and inorganic chemistry, which should be entirely acquired in the preliminary course, are the only branches of the science taught, in the medical schools.

ENLARGED TONSILS AND THORACIC DEFORMITY.

It is now a well-recognized fact that certain cases of hypertrophy of the tonsils are accompanied by a special deformity of the chest, at a point corresponding exactly with the union of the inferior and middle third of the chest-wall. This deformity, first noticed by Dupuytren, is the subject of an interesting paper by M. BILHAUT, in the *Annales d'Orthopédie et de Chirurgie pratiques*, No. 6, 1889. The deformity was at first attributed to rachitism. Further study of the subject, especially by Coulson, of London, and Mason Warren, of Boston, showed that there was more than one chest-deformity present in cases of hypertrophy of the tonsils. Two distinct classes were differentiated: in the first are placed the rachitic deviations in subjects of enlarged tonsils; the second class comprises those cases only in which the thoracic deformity is essentially due to tonsillar hypertrophy. It is the second class that M. Bilhaut discusses.

Lamberton not only described this deformity, but he differentiated the analogous lesions, and indicated the most rational treatment. "The ribs forming the median part of the thoracic walls are more or less depressed or sunken, so that these bony arches present an incurvation opposed to their natural curvature, and the maximum of this incurvation corresponds almost exactly to the middle points of the bones. As a rule, the upper part of the chest is not involved by the deformity, but retains its normal form, and, if it appears more convex, if the ribs appear to be more prominent, and more curved outward, it is, in most cases, due to the contrast between the natural curvature of the upper, and the unnatural depression of the median ribs. The condition of the sternum is in perfect accord with that of the costal walls; it is markedly sunken at the union of its middle and lower third, but for the remainder of its extent preserves almost exactly its normal form. The incurvation of its lower part gives the appearance, by contrast, of its upper part being much more prominent than normal." The existence of this deformity does not exclude those of a different nature, such as scoliosis, kyphosis, Pott's disease, etc., and one of these lesions may be found in a patient with the thoracic deformity due to tonsillar hypertrophy.

One of the most notable contributions to the

literature of this subject is a *Thèse* sustained before the Faculté de Médecine in 1881, by Dr. Gailard, of Chaton. This *Thèse* was the outcome of a most careful study of the etiology, symptomatology and treatment of this affection. He called special attention to the lateral flattening of the thorax and the projection of the sternum, giving the "pigeon breast." The difference between this alteration of the thorax and that due to rachitism is marked. In rickets the costo-sternal cartilages form a projection, and two *vertical* grooves extend from above downwards along the chest. The groove caused by tonsilar hypertrophy, however, is transverse, giving somewhat the appearance of a ligature having been maintained for a long time at the junction of the lower and middle third of the thorax. Alphonse Robart explains this deformity by a diminution of intrathoracic tension, the result, he claims, of impeded entrance of air. The narrowness of the upper air-passages impedes the entrance of air, while atmospheric pressure, being not compensated, causes the deformity of the flexible chest-walls of the young subjects. Billhaut regards this theory as indefensible, and is inclined to adopt that of Lambon, who says, in regard to Robart's theory that atmospheric pressure should act in the same manner on all points of the thorax, and not on a limited portion. Lambon attributes the deformity to forced diaphragmatic respiration; and as a matter of fact the line of deformity is the line of insertion of the diaphragm. Yet it may be asked why a similar deformity is not found in emphysematous and asthmatic persons?

The first thing to be done in the way of treatment is to remove the enlarged tonsils, partly or wholly. If the deformity is sufficiently marked to require orthopædic treatment, Billhaut advises corsets that exercise slight pressure on the broader portion of the chest. Sayre's plaster jacket may be used, says Billhaut, but preference should be given to a laced corset. At the point of greatest circumference a layer of wadding or soft-rubber cushions may be placed. In very young children a simple corset will be sufficient as a rule. Massage and frictions should be utilized. It is useless to begin any method of orthopædic treatment, however, until the hypertrophy of the tonsils has been reduced or removed.

EDITORIAL NOTES.

DR. JOHN SWINBURNE died at his residence in Albany, N. Y., on March 28, 1889, aged 69 years. He had long been one of the most eminent members of the profession in that city. He had, at different times, filled the offices of Health Officer of the Port of New York, Member of Congress, and Mayor of Albany.

DR. R. L. HOWARD, of Montreal, Canada, died on the 28th of March, 1889. He was Dean of the Faculty of Medicine in McGill University, and well known as a leading member of the profession.

COLCHICINE IN OCULAR THERAPEUTICS.—At the meeting of the Société d'Ophthalmologie of Paris on February 5, M. DARIER said that since the discovery of salicylate of soda many ocular affections have been regarded as of rheumatic nature, and have been much benefited by this agent. This drug has been shown to be of great efficacy in cases of marginal corneal ulcers of arthritic nature, in certain cases of iritis, and in simple episcleritis, however intense, so long as the sclerotic tissue is not seriously involved and the cornea is not infiltrated. In the cases of scleritis with corneal complication, as well as in certain grave forms of serous iritis and of anterior sclero-choroiditis, neither salicylate of soda in large doses, nor salicylate of lithium show any efficacy. But with colchicine in doses of 2 or 4 millig. a day, says Darier, excellent results are obtained. In persons of gouty and rheumatic history colchicine is of signal value, especially in chronic and severe cases in which salicylate of soda has no effect. A patient with simple episcleritis may be cured easily by the salicylate, but if there is scleritis, with sclerosing keratitis, 2 to 4 millig. of colchicine should be given with the salicylate. In patients with hereditary accidents, and in whom the scleritis is the first manifestation of the arthritic diathesis, colchicine may be advantageously combined with benzoate of soda or lithia, or with carbonate of lithia, says Darier, if the antecedents are unmistakably gouty. It appears, however, that urate of lithium would be much better than the carbonate, which is a very insoluble compound in the animal fluids. Colchicine may be prescribed in the form of granules of one millig. each. One, two, four, and even six may be taken in one day, the patient

being instructed to lessen the dose when symptoms of colic occur. But no preparation of colicum is well borne for any considerable length of time.

REVISION OF THE UNITED STATES PHARMACOPŒIA.—We desire to direct the attention of all parties interested in the proper revision of the Pharmacopœia for 1890, to the official call for the *General Convention* of revision, found under the head of miscellaneous notices in the present number of THE JOURNAL. The Convention is to assemble in Washington, D. C., at noon, May 7th, 1890. "Every incorporated medical or pharmacal college, association, or society desiring to be represented in the Convention," should send to Robert Amory, care of Dr. Edwin N. Brigham, 19 Boylston Place, Boston, Mass., its corporate title and a list of its officers. For further information see the call in another column.

THE BUFFALO COUNTY (NEB.) MEDICAL SOCIETY has been recently organized, with the following officers: Dr. G. L. Humphrey, President; Dr. J. J. Porter, Vice-President; Dr. F. H. Duckworth, Secretary.

NURSING INFANTS WITH ASSES' MILK.—The public charities of Paris, says the *Scientific American*, under the advice of the physicians have substituted for the milk of goats that of asses, and have installed an ample yard near the pavilion of the rickety and scrofulous children, which is separated only by a short covered passage-way. A very picturesque scene is the spectacle of the lactation of the infants in this enclosure every morning. The women that have charge of the animals hold the children in such position that they can suckle the docile animals, which they do with avidity. The administration d' Assistance Publique has calculated that one young ass is able to lactate abundantly for nine or ten months.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held in Newport, R. I., June 25, 26, 27 and 28, 1889.

SECTION ON STATE MEDICINE.

The following additional papers have been an-

nounced for presentation to the Section on State Medicine at the forthcoming meeting of the Association:

"The Necessity for Sanitary Supervision of Schools," Dr. George H. Rohé, Baltimore, Md.

"The Purification of Drinking Water for Cities," Dr. Charles V. Chapin, Providence, R. I.

A Paper, by Dr. A. N. Bell, Brooklyn, N. Y.

It is requested that gentlemen who have promised papers for this Section and have not designated the titles thereof, will send the titles to the Secretary as soon as possible.

In order to systematize the work of the Section, it would be a favor to have the names of gentlemen that desire to discuss any of the papers to be read before the Section.

S. T. ARMSTRONG,

Secretary of Section on State Medicine.

U. S. Marine-Hospital Service, New York, N. Y.

SECTION ON LARYNGOLOGY AND OTOTOLOGY.

The Secretary of this Section has written to about 200 of the best known laryngologists and otologists in the country, a number of whom have promised papers for the June meeting, so that the officers can assure the profession of a successful and highly interesting meeting.

Some who were uncertain as to whether or not they could find the time to write are now urged to definitely decide, and it is hoped that some who felt it impossible to do anything, will change their minds, and make an extra effort for this meeting. The few who have not replied to the Secretary's personal letter are earnestly requested to do so at once.

Titles of articles should be sent in as soon as the authors have decided upon their subject.

E. FLETCHER INGALS, Secretary,
70 State St., Chicago.

W. H. DALY, President,
Pittsburgh, Pa.

The names and addresses of Section Officers and other officers of the Association are printed on advertising page 25.

Special Attention is called to the following Rules of the Association:

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their

possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Association, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the American Medical Association on the day of 18 ." (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

SOCIETY PROCEEDINGS.

Massachusetts Medical Society,
Suffolk District.

Stated Meeting January 9, 1889.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY
AND HYGIENE

ALBERT N. BLODGETT, M.D., SECRETARY.

DR. HENRY JACKSON read a paper entitled

NOTES ON TWENTY-SEVEN CASES OF DIPHTHERIA, OCCURRING BETWEEN JULY 1, 1888, AND JANUARY 1, 1889.

(See page 482.)

DR. A. L. MASON opened a discussion on diphtheria with a report of 6 fatal cases of that disease in adults which had recently occurred in the new diphtheria ward at the Boston City Hospital. This ward, which was opened in April, 1888, was stated to be admirably adapted to its purpose, and the nursing was, in the experience of the reader, unequalled, because he knew of no other hospital in this vicinity where the nurses are systematically trained to take care of large numbers of diphtheria patients, a duty which they perform with the greatest intelligence and devotion. Under these favorable conditions for treatment, however, the mortality had been large, many patients, both adults and children, dying from septic poisoning, heart failure in convalescence, and tracheal obstructions. Their state at entrance was often very bad, sometimes moribund. Almost all cases admitted would be classed as severe.

Dr. Mason continued as follows: It will be well, then, to consider how fast this disease has grown upon us, from a few isolated cases thirty years ago, until it is now the most fatal endemic disease of a preventable nature which we have to contend with. The success of our board of health with smallpox makes it proper to assume that the mortality from all infectious diseases could be reduced to a minimum if similar methods could be adopted for their suppression. In this connection I will refer to the report of the Glasgow Fever Hospital, where by isolation and disinfection an improvement in the public health has been obtained.

There are obvious reasons why it is difficult to deal with diphtheria in this community, at present at least, in as summary a manner as with smallpox, although diphtheria is much less contagious, therefore more readily controlled; it is also more fatal, and in many cases it is entirely beyond the reach of medical or surgical aid.

During 1888 the number of deaths from diphtheria in Boston was 470, one third of all the cases reported. This is in excess of the whole number of deaths from yellow fever in Florida

during the recent epidemic, in which there were about 350 deaths in less than 4000 cases, 9 per cent.

At the City hospital, with the assistance of Dr. W. A. Morrison, house-physician, I have found that the records of the diphtheria wards show in 1888 the admission of 199 medical patients and 126 surgical; total, 325; 34 cases were transferred from the medical to the surgical department for operation on account of tracheal obstruction. It will be seen, then, that 160 patients, or nearly half the whole number admitted, required surgical treatment. Of the remaining 165, who were treated medically, 47 died, or 28 per cent. Under 15 years of age, there were 145 admissions with 40 deaths, 27 per cent. Between 15 and 30 years, 6 deaths out of 49 cases, 12 per cent. There were but five patients over 30 years of age, viz., one of 30, one of 31, two of 34, and one of 40 years. One died from tracheal obstruction which was not relieved by tracheotomy.

Direct contagion was reported in about one-fifth of the admissions, but the history in this respect is often deficient. Many of the worst cases come from among the Germans, Poles, Italians, and other foreigners. Two cases came from the same family in six instances; 3 cases, three times; 4 cases, three times; 5 cases, once. Thirty-eight cases from thirteen families.

Among the inmates of the hospital who took the disease were, one of the house-physicians, as previously mentioned, who died after a brief illness; three nurses employed in the diphtheria wards; one nurse in a distant ward; and one laundry maid; all of whom recovered.

In 1880, when the facilities for isolation were imperfect, there were but 71 admissions to the medical department, of whom 7 were hospital employes; 22 per cent. of cases died. In 1887 the rate of mortality, exclusive of surgical cases, was 29 per cent.

It is probable that a large proportion of the gravest cases occurring in the city come to the hospital, especially for tracheotomy. This necessarily makes a high death-rate; 47 per cent. out of a total of all cases admitted in 1887, 184 in number.

DR. G. H. LYMAN said the number of cases of diphtheria has certainly been very startling at the City Hospital, and they presented some features unlike those I have observed in former years. Since October 1st I think there have been under my service 30 cases; 8 of these were transferred for operation, leaving 22 cases, of whom 4 died. There has been another feature in connection with these cases that, I think, has been very striking, and that is the very weak pulse and the low condition of the patient in almost all the cases that I have noticed, certainly in a very large number. Out of these 22 cases there were 4 of distinct heart failure. One of them recovered; the other three died, and

died apparently from a paralysis of the heart; it was not thrombosis; they died easily, quite suddenly; there was no considerable effort required for breathing, no sudden excitement towards the last, which, I suppose, we should look for in cases of thrombosis. With the exception of these cardiac failures there have been none of the cases followed by any symptoms of paralysis elsewhere. In cases of typhoid fever we have had quite a number of patients recover apparently entirely from the typhoid, but we found several of them suffering from neuritis. I have half a dozen cases of neuritis following typhoid fever, but none following diphtheria.

The great prevalence of the disease, it seems to me, is a thing to which prompt attention should be given. I cannot think, in view of the statistics of the Glasgow Hospital Report, that it is a necessary disease. It seems to me something could be done to check it. We can check smallpox; Glasgow people seem to be able to check diphtheria. I see no reason why we cannot do it here as well. The Boston City Hospital has accommodation for twenty-five to thirty diphtheria patients. For a portion of the time the ward has been fairly full, I don't think so full that any cases have been obliged to be placed elsewhere.

The cases Dr. Jackson speaks of, of mild diphtheria or, granting a doubtful diagnosis, follicular tonsillitis, have been quite numerous. We have had a good many cases in which, for twenty-four hours, we did not attempt to make a positive diagnosis. There seems to have been a more constant accompaniment of tonsillar inflammation, distinct from diphtheritic disease, than I have ever noticed before. A good many have turned out to be tonsillitis, but some of them undoubtedly were diphtheria.

The importance of the thing, it seems to me, must be manifest to this Society, but I do not know how we are going to remedy it except through some action of the Board of Health. I think the subject is important enough for this Society to appoint a committee to consult with the Board of Health to see if there is not something to be done to check the spread of this disease. Dr. Jackson mentioned one point that was confirmatory of the general views on the subject; that the disease was decidedly infectious, and *not* contagious. I have always supposed that to be the case, but his statistics and those which the chairman has given bear out my opinion very strongly.

I am rather surprised at the great mortality that the statistics which have been presented give. I did not suppose, from my experience on the medical side of the hospital, that it was anything like that. I suppose the cases turned over to the surgical side were transferred too late, or were of such a character that no operation would relieve the patient. This would increase the general

mortality very much. The operation in a large number of surgical cases—cases extending to the larynx and requiring operation—is done in patients already reduced by the disease, and the mortality is very large indeed. Putting those aside I should say the mortality of diphtheria was small.

DR. DURGIN, Chairman of the City Board of Health: The appointment of a committee would please me very much. I have listened to the remarks with a good deal of interest, and I felt very greatly pleased when I understood that there was to be a portion of this evening taken up with the discussion of the prevalence of diphtheria in Boston. The cause of such a large number being treated at the City Hospital has already been given by the reader. The accommodations have been greatly increased in the past year and, in addition to that, the Board of Health have taken measures to send more patients there than ever before, in consequence of the increased accommodations. I have been somewhat surprised at the very large rate of mortality at the hospital, which undoubtedly is accounted for in a large measure by the fact that the *worst cases* come there; not all, but many of the worst cases, and particularly the surgical cases. The mortality for the whole city, however, has not increased this year; that is, the rate of mortality, the average percentage of mortality of the whole number of cases reported. I have brought in a transcript from the records to show the percentage of mortality of the number of cases reported for the last eleven years; that is, during the period over which we have called for reports from the physicians. I find that the percentage of deaths from diphtheria of the total numbers of cases reported for the past year was 33.18 per cent., and for the past five years the percentage has been 29.16 per cent. against 33.56 per cent. for the previous five years; there having been, as you see, quite a reduction in the percentage of deaths in the total number of cases reported in the last five years compared with the previous five years.

In 1878 we called for reports upon diphtheria, and the first year we received 1,370 reports, with 448 deaths, giving a percentage of 32.7 per cent. for the deaths. For the first five years there were 7,363 cases, and in the last five years 6,134. I wanted to say in this connection that the difference between the official treatment of diphtheria as contrasted with small-pox is certainly very great. In small-pox we have older people to deal with; the average age is considerably higher than with diphtheria, there is therefore less trouble in separating children from parents. In small-pox there is very great fear of the contagion; with diphtheria it is not as great. People will expose themselves and allow others to expose themselves to the one when they would avoid the other. A still greater difference between the two diseases is

in the matter of diagnosis. In small-pox it is very easy, and is almost always made at a very early stage. The physician either recognizes the disease himself at once, or calls an expert to make the diagnosis. In diphtheria it is not so. In diphtheria there is, as we know, oftentimes great difficulty in making a positive diagnosis. The child remains under suspicion for several days if not weeks, therefore the report to the Board of Health is delayed, sometimes until the child has died, and allows the consequent exposure more or less of other children to this disease, both to the family and to people who are liable to call at the house. Another difficulty in the way of treating diphtheria is the difference of opinion in the profession in regard to the true character of croup. There is a question in the Society as to whether croup and diphtheria are one and the same disease, and so long as that difference of opinion exists, so long we shall have a large number of cases of a contagious disease, call it what you may, that will spread from one person to another, and cause croup in our community. The cases are numerous where the disease has spread from one person to another in a family, and beyond the family, while the physician has persisted in calling it croup, and therefore not contagious. Another difficulty which stands in the way of successful treatment by isolation of diphtheria is the fact that in Boston we have no adequate hospital accommodation, notwithstanding the fact that the city has been somewhat generous in providing greater facilities in the past year; and the accommodations, I trust, have not been used to their utmost capacity yet; still, we are constantly running across families where it is almost impossible to separate the children from the parents, or from each other, and the patient remains at home, and thus we constantly have a very large number of points of infection through the city, which never exist with small-pox, and which we cannot overcome. It becomes absolutely necessary, if we would treat diphtheria as we do small-pox, that the Board of Health shall have some place to quarantine such a family, in order to disinfect the house. Again, with small-pox, we have the great advantage of vaccination, which cannot be overrated. There are, in spite of the best we can do, some insurmountable obstacles in the way of treating diphtheria and reducing its prevalence in our city as we might do with small-pox.

DR. GEORGE B. SHATTUCK: We are very grateful to Dr. Mason for bringing before us such a practical subject in such a practical way; and it is only by discussing such a subject in meeting, as we are doing to-night, that we can make some approaches towards creating precisely that public opinion which Dr. Durgin appeals to as necessary for the support of an executive body like the Board of Health; for it is very certain that a Board of Health is limited in its action, first of all by the

powers which the laws give it, and secondly, beyond that, by the condition of public opinion even where the laws support it in active procedures; and our expectations in regard to what the Board of Health can do must be controlled, even beyond and outside of what the laws allow, by the condition of public opinion, which limits what the Board of Health can practically accomplish. I think there is a great deal in the point Dr. Durgin has made with reference to the difference between diphtheria and small-pox. There is an utterly different feeling in the community with reference to small-pox, and one comes across it in all sorts of ways. I remember in a trial in court with reference to typhoid fever, it was perfectly simple to convince the jury and the judge that you could not have a case of small-pox without a preceding case, but as soon as we attempted to tell them they could not have a case of typhoid fever without a preceding case, that seemed to them very extraordinary, a very singular theory indeed, and they immediately wanted to know, if that was so, where the first case came from. With reference to small-pox that difficulty never came to their minds. The public does not reason about these diseases, and you can't do with reference to diphtheria what you do with reference to small-pox.

There is the question of diagnosis. Among some of our brethren who practice medicine, and especially sectarian medicine, a single individual may have three or four hundred cases of diphtheria in his practice in the course of a year, and of this probably the mortality will be absolutely nothing. I remember such an instance not long ago in Springfield, where a distinguished sectarian practitioner described to a society how he had had several hundred cases of diphtheria in the course of the preceding year without any deaths whatever. One of the society, who had taken pains to look up the returns at the registrar's office, showed him and the society that he was mistaken in regard to this. But, of course, the question of diagnosis is a very difficult one, and cases may be returned as diphtheria which are not diphtheria, and, on the other hand, it is perfectly easy to conceal such a disease as diphtheria, which has not any external manifestations. Whilst acknowledging all that, I still sympathize with the feelings which the chairman has expressed; and I think any one on duty at the City Hospital, where we have certainly an opportunity to see as much genuine and serious diphtheria as any other practitioners in this community, if not more, could not help wishing that something could be done. In some cases you cannot force patients to be isolated. I remember one of those unfortunate instances in which almost the whole family—the mother, a child at the breast, and two or three young children—were all brought to the hospital with diphtheria, and one of the children, I think, died; the father came and took the rest

of the family away and took them home against every remonstrance. It does seem as though such a thing as that ought not to be allowed to occur. The father took them back to the same house in which diphtheria had occurred a certain length of time before they had inhabited it, and he took them back there because, he said, he couldn't go anywhere else. He made an effort to get other lodgings, and it was known his family had had diphtheria, and he was driven back to the same lodgings. Such things are constantly presenting themselves to our attention and necessarily make us desire, if possible, that something might be done.

With reference to the mortality at the City Hospital, I don't think it is a large mortality, as mortality from diphtheria is recognized. I think that the statistics of the text-books and of other hospitals will show that the mortality is expected to range rather above 30 per cent. than below it. Many of the cases at the City Hospital are not only the worst cases, but are also, many of them, in the worst possible condition; and I think that it is rather surprising that under these circumstances the mortality should be as small as it is. Without going into the question of treatment I should like to say that, for many years, I have felt that the fact that the mortality has been kept at the point where it is has been largely owing to the extremely skilful and faithful nursing which these patients receive at the City Hospital. I don't believe that that class of diphtheria cases would stand anything like as good a chance anywhere else under other circumstances, and for such cases as these, whilst it is important to have a sensible and experienced physician, I cannot help feeling that it is of fully equal importance to have an intelligent, and faithful, and devoted nurse, who is always on hand to carry out the minutest directions in the most prompt, and regular, and efficient fashion.

DR. G. H. M. ROWE, Superintendent of Boston City Hospital: This is a subject in which I am much interested, as it involves so much experience in regard to the care of the patients with diphtheria at the City Hospital. The Board of Health for several years have appealed to us for greater facilities for the care of patients with contagious diseases. The same thing has been done in the City Hospital Report, in the Trustees' Report, and in the Superintendent's Report, for at least seven years previous to the time when we received our appropriation. Formerly these patients were taken care of in the mixed wards called K and L. The mortality was thought then to be large. The number of nurses who contracted diphtheria was very much larger then than it has been since the new wards were erected. It was only by publishing openly in the City Council the fact that patients had come in there with one disease and contracted another—nine cases in one winter, of whom

four died—that the appropriation was gained. I think it is an open question whether diphtheria wards should be attached to a city hospital; but it was Hobson's choice at that time. The Glasgow Hospital, which has been alluded to by Dr. Mason, is, as far as my knowledge goes, the finest hospital in the world, and the regulations for the separation and isolation of contagious diseases are the best I know of—rules we are not able to enforce at the City Hospital. Our new wards, of course, were experimental in a large measure, but experiments have proved that they are eminently successful in heating and ventilation. There is one fault that could be remedied, and that is that the fresh air supply is not equal to the exit. The system of ventilation is such that fetid odors are carried off rapidly. The accommodations have never been filled to their utmost capacity. We have accommodations for forty-two patients with diphtheria. At no time have there been more than twenty-seven, and it is rare that there are above twenty-two. In previous years the Board of Health has been clamoring for a place to carry these patients. The city government through its Council has supplied such a place, and yet it appears from statistics which are well known to the gentlemen connected with the hospital, that the mortality this year has been something that is, I may say, alarming. It is so much so, and recognized at the hospital to such a degree, that the nurses, although very anxious to see the result of the experiment, become depressed after they get into these wards, and are glad to be relieved and sent elsewhere. They work with the utmost faithfulness, and yet, patients who seem to be doing well often die suddenly from septic symptoms or heart failure. That has a very depressing influence upon the nurses. During the last week in November Dr. Prescott made some statistics. They are not made with reference to publication. They are very nearly the same as those by Dr. Mason. The total number of patients with diphtheria admitted this year was 337. Dr. Mason has given the statistics of the patients admitted on the medical side. I have those who were admitted on the surgical side up to about the 5th or 6th of December. To that date the total cases admitted on the surgical side was 139. Out of that number the deaths were as follows: Tracheotomy was done in 35; of that number 5 recovered and 30 died. Intubations, 71; 54 died and 17 recovered. By another classification, of those cases on whom intubation was first done and subsequently tracheotomy, comprising 16 cases, all died. Out of 17 cases on whom no operation was done, for various reasons, mostly because they were septic and operation deemed useless, 4 recovered and 13 died. That makes a total of 87 deaths. The total deaths were 53 per cent. at that time. The total admissions to the City Hospital in five years have been 960; in four out of five years 333 cases have died.

When the new wards were opened I sent a communication to the trustees recommending certain rules in regard to the isolation of the cases and to the limitation of visitors. It was decided that the practice of admitting friends should go on in a tentative way, and the attempt be made to limit them as far as possible. Practice has shown that what Dr. Durgin says holds true; it is almost impossible to shut out the parents from their children; and if any attempt of that sort is made they immediately take their child away. Our invariable rule is that patients with tracheotomies and intubations are considered as *dangerously* ill. The parents are admitted at all times before 8 o'clock in the evening. We are practically able to exclude all friends except the parents, but beyond that it is very difficult to go in wards attached to the hospital; it is only possible when we have them isolated and separated. The only way to bring this about has been intimated by Drs. Lyman, Shattuck, and others, and that is the creation of public opinion. If the Board of Health cannot do it by its rules and regulations and by expression of opinion through their published reports, and in various other ways; if the City Hospital through its annual report and that of the Superintendent and Trustees are not able to accomplish it, the only way out of it would seem to be that the profession, through its societies, in some formal way should try to educate the people to a better state of public opinion.

A conference with the board of health has been suggested. Until public opinion is created so that it shall influence the uneducated classes, and until some such legal restrictions are made for diphtheria as for smallpox, it seems to me impossible to stop it; when that period is reached it seems to me that a great deal will be accomplished in reducing the mortality, and also in reducing the amount of disease. At the present time there are 18 or 19 cases of diphtheria at the City Hospital. The ward for scarlet fever has been closed, with the exception of 2 cases for nearly three months.

DR. C. F. WITTINGTON: My experience of diphtheria, so far as hospital work is concerned, is limited to the out-patient department of the City Hospital; and I am sorry to say that patients with diphtheria come there, and it is not an infrequent occurrence to find, in looking over the patients in the morning, that a patient with diphtheria has been sitting in immediate contact with other patients in the waiting-room. That, I suppose, is not peculiar to the City hospital out-patient department. The same necessarily must happen more or less in all outside clinics. It is to be hoped that when the new building is completed at the City Hospital some opportunities will be found to question patients at least sufficiently to indicate the possible existence, not only of diphtheria, but of other eruptive diseases, so that these

patients can be removed from contact with the others.

A question which has been of a good deal of interest to me of late has been with reference to the comparative frequency of diphtheria in the various wards of the city. I would like to know if the records at the board of health's office show the distribution as to the wards of the city, because, it seems to me, that it is a matter of considerable importance. It is generally assumed that a great deal of the diphtheria comes from the North End districts, and other more crowded portions of the city. In Roxbury there is considerable prevalence of diphtheria for the last year. One of the cases reported—Case 3—I saw before she entered the hospital. Her surroundings were certainly not such as to give any clue to the origin of the disease in her case. In one house in that district, apparently in perfect sanitary condition, a well-built, large house, in 1876 there was a case of diphtheria in a woman of 60 or upwards, who died. The family then moved away. Two years later a young woman was confined in the house and died of puerperal fever. Her servant went home with a sore throat, which was serious, and whether she recovered from it I do not know. A sister of the lady sick with puerperal fever went home and developed typhoid fever; she was seriously ill. Another family took the house for a year or two, and in 1880 another case of diphtheria occurred in the same house in a child.

Last summer a lecture was published in the *Boston Medical Journal* in regard to the relative frequency of diphtheria in urban and suburban communities. The conclusion was drawn from some fifty different outbreaks of diphtheria, mostly in suburban communities, that in a pretty large number of cases of diphtheria it was impossible to trace the first case of the epidemic from a previous case. In only four out of fifty could the writer trace the first case from a previous case of diphtheria, and he was inclined to believe that a certain number of cases of diphtheria may develop from general insanitary conditions, possibly irrespective of a specific contagion from a previous case. That evidence was tolerably strong in his cases. He cites a number of parishes of over 1000 inhabitants which had a small number of cases of diphtheria in this period of years, while in another series of smaller parishes the frequency of outbreaks were proportionately large. The figures he gives seem to me not to be borne out altogether by the figures in this country, so far as I have been able to ascertain. The last monthly report of the New York State Board of Health, for instance, gives the frequency of the deaths from diphtheria for the month of November, 1888, in the different districts of the State, and of course the mortality by direct conveyance of disease from one to another would naturally be expected to be greater in the cities, but in spite of the fact that

treatment is more active there than in the country districts, the preponderance was greater in cities like Brooklyn, and Albany, and Troy, than in the back-country districts; whereas the report of Dr. Barnes just referred to gives a much larger number of occurrences in the remote districts than in the larger cities. I should like particularly to know whether the occurrence of diphtheria is very much greater in the wards in this city which approximate more nearly the country conditions than in the more crowded wards, or the reverse.

DR. DURGIN: I cannot reply with exactness; but in the past year the distribution has been scattered over the entire city much more than in any previous years. As a matter of guess-work, I believe that the percentage of cases of diphtheria in the population of the out-lying districts is rather greater than that in the more densely populated parts of the city. I think that Dr. McCollom could give a better opinion upon that subject than I, because he sees more of the cases. Dr. McCollom and his assistants usually see most of the cases, particularly those in the central part of the city.

I would like to call attention to one or two points in relation to this disease, and one is the repetition of the disease in the same patient. The text-books, I think, say that one attack seems to predispose the patient to subsequent attacks. Although my own personal experience has not been a large one, this statement of the text-books has not been borne out by my observation; and I have fallen in with very few physicians who have found that that was true. We occasionally hear a patient say that she or he has had diphtheria several times before. Of course that is partial evidence. I know that some physicians have seen a second and perhaps a third attack in the same patient. Of course, if this is largely true, it gives us a much less advantage in taking care of diphtheria than in taking care of most of the other contagious diseases. I should be glad to hear expressions of others who have had experience with diphtheria, on that point.

The matter of removing a patient with diphtheria from the City Hospital is a serious one; legally, I think, neither the trustees nor the board of health would have the right to retain such a patient contrary to his desire.

DR. ROWE: Of course we adapt our policy to the class of people we have to deal with. In a large number of cases we have dissuaded them from removing patients with this disease. In all cases where such patients remove them they are discharged as going on their own request and against advice. We have a printed form for such cases and at the end we state that they remove their child or friend, knowing the disease to be diphtheria and dangerous both to the patient and the public, and they take the entire re-

sponsibility, freeing the hospital and its physicians and the authorities from all responsibility. There is a certain more ignorant class to whom we say, "It is impossible to take your child away." We say it to the Poles and Huns. "You cannot do it without permit from the board of health." If we should make it a test case, there might not be sufficient power with the board of trustees to retain a given case. If patients are taken from the City Hospital, it should be understood that it is not done until after measures are used some, of which are fair and some perhaps not quite truthful, with the more ignorant classes, to retain them.

DR. G. B. SHATTUCK: I should be sorry if any gentleman present got the idea from anything I said, that I supposed, or meant to indicate that there was any power vested in the City Hospital or its board of trustees to prevent such an occurrence. I cited the occurrence to indicate to the society the position of public opinion, and the difficulties in dealing with this question, where such a thing as this was possible and legal, and could be done, and could not be prevented; and it is exactly one of those points which we want to educate public opinion to deal with, and to stimulate our lawmakers to make laws with regard to. With reference to the family I cited, the father there was a very independent, intelligent New Englander. If he had been a Pole or Polish Jew, or German or Austrian, then, as Dr. Rowe says, there would have been some hope of dealing with him, because he is used to a paternal form of government.

It is difficult to make our diagnosis in many of these cases. Then as soon as we have made our diagnosis, it is a pity we have not the power, by law or public opinion, to isolate our patients.

DR. DURGIN: In a case of small-pox we never take a child without its mother or sister with it if possible, and that generally constitutes all the visiting allowed in the hospital. In very few instances the mother has been allowed to come to the hospital after the child has been removed to the hospital, but is always retained until the anxiety is over, and then thoroughly disinfected and carried home. I don't think that the City Hospital trustees or the superintendent can be held to blame at all for the withdrawing of the patient. I don't understand that they have any legal right to retain them.

DR. G. H. LYMAN: I should like to ask the law on that point: if the law gives the board of health the power to isolate a small-pox case why should it not have the right to isolate a case of diphtheria?

DR. DURGIN: It has the same right.

DR. LYMAN: These patients come in by order of the board of health: ought not they to be retained until the board of health gives permission to have them removed?

DR. DURGIN: I don't understand that the board of health has control over a patient after entering the City Hospital. We have the power to start them for the hospital, but no control after they are in it, the hospital not being in charge of the board. The line where our authority begins and ceases in that case is not quite clear. I can only say that when we have left the patient in the charge of the officers of the City Hospital I don't understand that we legally have any further right, can exercise any further control over him. In our own hospital—one established and maintained by ourselves—we would have a perfect right to retain them until all danger from contact with others is passed.

DR. G. H. LYMAN: I should like to ask whether under the law the board of health must isolate all persons in any one special place: cannot the board isolate them in the City Hospital as well as anywhere else? What is the difference? Does the law state that a small-pox hospital shall be for and under the control of the board of health, or that the board of health shall have authority to isolate these cases. Suppose they choose to isolate them in a tent?

DR. DURGIN: In that event we should do precisely as we do in a dwelling house. We place our own officers there. They are our agents and have the right. We cannot make Dr. Rowe an agent of the board of health. We could go there personally if we had the right to retain a patient as in a dwelling-house or in a tent. I give an unprofessional opinion in the matter. It is purely a legal question, which I don't wish to stand in the light of a lawyer in answering.

DR. H. OSGOOD: When a patient leaves the hospital after having been confined a few days, it seems logical to suppose he is in a worse condition than when he enters, and consequently the patient is less protected than when first sent to the hospital, as we will suppose, by the board of health. I would like to ask Dr. Durgin if this society as a body could not present a memorial to any authority, either to the city or the State legislature, which will give the board of health the necessary power, and, if such a memorial would be of use, to what authority should it be presented?

DR. FOWLER suggested that the work of the committee should be directed particularly to the investigating, and to conferring with regard to diphtheria, and not take in the other contagious diseases.

DR. MARION: I have been extremely interested in the papers and the discussion which has been elicited; and I feel quite unequal to saying anything of importance upon the subject, feeling as I do, that the more I see of diphtheria the less positive I am in my opinions as to its nature and everything concerning it; so uncertain am I of late that when I see a case, with reference to

diagnosis I very often say I don't know. What seems to be a case of sore throat may be a case of diphtheria. When asked how long it will last, I tell them frankly I don't know. If the child is not better within a week I think it is very serious. In ward 25, with a population of between nine and ten thousand, during October, November, and December, there were reported to the board of health seventy-four cases, I think, a very large proportion of diphtheria it seems to me, and this has been equally distributed about the ward, not being confined to any particular locality, not confined to streets where they have sewers, to houses where they have water-closets or privies wholly, where they have used well water or water from the mains. No one marked feature has been noticed except that it has been generally distributed through the ward.

With the epidemic or endemic in Brighton, there has been a large number of cases of measles running along with it in the same family.

The matter of heart failure has been referred to. It seems to me I have noticed that phenomenon more in this epidemic than ever before. With reference to heart failure in one family not reported as diphtheria, the child, as the mother told me, was choking. Upon examination, it seemed the child had faucial paralysis with enlarged glands. All the children had had sore throats, this child included. Within a week after I first saw the child I was called again, and found three of the children down with measles. This child was with the rest, came on with the same symptoms, but instead of having a good square eruption it was very pale, the pulse hardly perceptible. The child died that night in the first stage of measles. I returned it as a death of heart failure in the initial stage of measles, heart failure from paralysis due to diphtheria. In two or three other cases of measles I have noticed heart failure.

Dr. Durgin refers to the repeated attacks of diphtheria in the same individual. In this epidemic I had a rather interesting case where a child came down with diphtheria, went through the regular stage of about ten days and recovered, and a day or two following showed the first signs of measles; the measles went through its regular course, and before the child was allowed to leave the room again a membrane developed on the fauces, and I believe it also extended into the larynx, as the child entirely lost the voice and was hoarse several days, but recovered. On the repetition of diphtheria in the child, the mother also came down with diphtheria.

Another subject that Dr. Durgin has alluded to is with reference to croup. I suppose that that is, and always will be, a disputed point. I don't know that all croup is not all diphtheria; there are some cases that certainly don't get reported as diphtheria. A case that has recently happened

in the ward might illustrate what I mean. The children were all sick with measles under the care of a physician practicing sectarian medicine. This child after going through the measles was attacked with croup. The child had the operation of intubation and died within twenty-four hours; was allowed to have a public funeral, was embalmed and had a "wake." Two days after the funeral the remaining two children of the family were sent to the City Hospital by my brother. On the following day I sent the woman to take care of a child during intubation, and subsequent to that there were several cases of diphtheria, but still the first case was claimed to be a case of simon-pure croup. I fancy that oftentimes it goes that way. In connection with diphtheria it was my fortune to see several cases of diphtheria following croup; in most of these instances there was laryngeal complication, even when not coming to a fatal issue. I have an interesting case to allude to in connection with diphtheria in the puerperal state. On the 30th of November, a lady called at my office with a very severe sore throat. Being unable to make a diagnosis I gave her directions to go home and let me know if she saw anything in the throat that looked peculiar. The next night they found a very slight patch. I at once instituted the treatment for diphtheria; and the following day the fauces, soft palate, and both tonsils were covered with the characteristic exudation of diphtheria. She expected to be confined on the 5th of December. The diphtheritic process went on its regular way, and she was confined on the morning of December 5th. Everything went well. She had a very slight elevation of temperature that day; it fell back where it had been before. It did not begin excessively high— 101° or 102° , and in ten days she was convalescent, and within two weeks the fauces, I think, all cleared. The child was taken immediately from the room and in another part of the house. The child was covered with an eruption of sudamina which changed to a milky appearance and disappeared. The mother did well. When the boy was 24 days old I was called to see it, as it could not breathe through its nose. I found a characteristic discharge of thin yellow serum, and felt sure it was going to be a case of nasal diphtheria. The following day a whitish membrane had formed near the anterior opening in both nares, and three or four days after that a patch of diphtheritic membrane had formed in the roof of the baby's mouth, and extended back with just a trace on one tonsil. Further than that it did not extend, and it is still under treatment. The exudation has not disappeared from the roof of the mouth as yet. It is a complication, and when it was first presented I did not know what to think or how to act. It was one of the unusual complications.

DR. MCCOLLOM, in answer to Dr. Withington's question in regard to the prevalence in the different localities of the city, presented a list of the number of cases in Boston for 1888, with the wards and relative area and the number of inhabitants: In ward one, 59 cases. That is East Boston, comprising the hill and a portion adjoining Chelsea. Population, 15,656.

Ward 1	59	15,656	Ward 14	41	22,738
" 2	16	15,700	" 15	49	16,219
" 3	16	12,328	" 16	65	16,435
" 4	28	12,518	" 17	34	14,747
" 5	26	12,827	" 18	27	14,141
(2) " 6	119	17,244	(5) " 19	81	20,577
(6) " 7	97	12,038	(4) " 20	85	27,983
" 8	30	11,286	" 21	40	15,620
" 9	11	11,289	" 22	49	15,834
" 10	11	9,745	" 23	38	17,424
" 11	32	17,865	(3) " 24	110	21,500
" 12	34	13,845	(1) " 25	141	8,523
" 13	35	22,547			
		1,411 cases.			399,597-415,000.

In Dr. Marion's ward (25) 141 cases. Population 8,523. This is a rather remarkable circumstance, because we would naturally suppose that to be the healthiest portion of Boston. A very great number of the houses are isolated, more so in ward 25 than in any other portion of the city, and yet with a population of 8,524 they have had 141 cases. In all there have been reported 1,411 cases throughout the whole city during the year, and the relative frequency is, 1st ward, 25; 2d ward, 6; 3d ward, 24; 4th ward, 20; 5th ward, 19. There is very little to be learned from the other figures, because they are so nearly alike.

A good deal has been said about isolating these cases. Of course it is of importance to isolate them, but how can it be done? We have an entirely different state of affairs in diphtheria from that which exists in smallpox. In the first place we must educate the people up to the idea that diphtheria is *contagious*, and no one more fully realizes the importance or necessity of that than I do. I hear the remarks every day that diphtheria is not contagious. "If the child had smallpox or scarlet-fever we would send the child to the hospital." In some cases where the parents consent to have the child go to the hospital, the family physician comes in and says: "Oh no, you had better not send her to the hospital. The child will be better in a day or two." He can't go against the family physician. No health officers, no one, can remove a patient from any house to a hospital unless the attending physician says that the patient can be removed without injury. We cannot state that there is absolutely and positively no danger. I think very few gentlemen here would care to take a posse of police officers and remove the child from its mother to the hospital, or force the mother to go. It has been done frequently in smallpox, but the community would not sustain the board of health in so doing in cases of diphtheria. It can be done by educating the people up to that point; and through the influence of the members of this Society we can accomplish a good deal.

Take the cases in Brighton. Dr. Marion has sent many cases to the hospitals and done much good. Suppose some one else had been there who did not believe diphtheria was contagious, we might have had ten times as many cases in Brighton as there have been.

Another thing, a good many of these cases are not reported until after the patient's death. It is a common thing for a patient to die, and the first report we get of the case is the death certificate. The patient may have had a physician and the physician told them the child had "sore throat," which is not reported.

It is desirable to have some place where we can send the children who are well, so that they may be watched, and the moment they come down with the disease be sent to the hospital.

As to the question of diagnosis: it is difficult in the first twenty-four hours to say absolutely, "It is diphtheria." We can advise cases to go to the hospital, but when making a forcible removal we must be *sure*. Mild cases are very apt to give rise to trouble, and the same thing is true of all contagious diseases, that the mild cases are very much more dangerous to the public health than the severe cases, because they go round everywhere and spread the disease almost indefinitely. These are some of the difficulties with which we have to contend, and for that reason I have spoken at length about them, because it is important that we take hold of the matter understandingly and see if there is not some way we can stamp out the epidemic to a certain extent.

I have seen quite a number of cases where people have had undoubted attacks of diphtheria a second and even a third time. I have in mind a case where an epidemic went through a whole family; three died and two lived, and since then there have been two attacks of unmistakable diphtheria. So far as hearsay evidence is concerned, we are constantly running across such cases. If a patient can have diphtheria three or four times we must be on our guard more than if they had the disease once in a lifetime.

DR. H. E. MARION presented the specimen of a cast of trachea which he took from a child in 1871, thinking it a case of croup.

DR. FARLOW: As an additional means of preventing the spread of diphtheria it seems to me there is something we can do toward the well children of the family. Diphtheria is a disease much more common in children than in adults. Children are subject to nasal catarrh, etc., consequently they are much more liable to the absorption of germs; so that if there is a contagious disease in the family, I think it is incumbent on the family physician to institute preventive measures, to see if there is any catarrh about the gums, or tonsils in particular, and if so, some alkaline douche should be used. Where there is a suspicion of diphtheria I think the children

should be rigorously inspected. I don't think a physician does his duty who comes into a house, gives a doubtful diagnosis, and says: "Wait two or three days," without instituting some preventive means with regard to the other children; and it seems to me that the prevention is much more important than the cure, although of course, the cure is the thing the family look for. If we can prevent the disease by keeping the throat in a healthy condition we are doing very much more than most physicians are doing now. It is what we should endeavor to accomplish.

DR. G. B. SHATTUCK: Dr. McCollom's remarks with reference to the doubtful cases represent another difficulty—that you can't send these cases to the diphtheria ward of the hospital any more than doubtful cases of small-pox to the small-pox hospital. In cases of sore throat the question comes up, "Is this patient to remain here or be transferred to the diphtheria ward?" Of course, if you send a case of tonsilitis, mild sore throat, to the hospital, and the patient develops diphtheria, it may indicate that your diagnosis is correct, or it may expose you to a suit.

DR. A. N. BLODGETT: In relation to the question of the recurrence of diphtheria I have had one or two cases sufficiently marked to convince me that recurrence of that disease is more frequent than generally supposed. I treated a case of diphtheria, in a young man 20 years of age, in which there was a moderate exudation in the throat of unmistakable character, followed by paresis of almost all the voluntary muscles, so that the limbs were powerless, speech was seriously interfered with, the patient could not move himself in bed, and was absolutely helpless for a period of two or three weeks. From this he gradually recovered, requiring no less than nine months for restoration of strength and vigor. About eighteen months afterward, he was prostrated by another distinct and unmistakable attack of diphtheria: the pharyngeal exudation was distinct and unmistakable, but there was no affection of the nervous system of the kind which occurred from the first case. The two attacks were treated by careful isolation, disinfection, the use of bichloride of mercury, and tincture of the chloride of iron, together with strychnine and other tonics. The patient recovered:

DR. A. L. MASON, in closing the discussion, said: In making these informal remarks about diphtheria I did not wish to convey the impression that the mortality rate seemed to me excessive in the City Hospital. It seems to me the wards are doing their work very well, and I should think would tend to diminish the amount of grave diphtheria that exists in the city. The object of a resolution of this kind is to aid the Board of Health in all its efforts. I am sure all of us are obliged to Dr. Durgin, Dr. McCullom and Dr. Marion for coming this evening and giving us so

much valuable information with regard to the course of this epidemic.

Of course the mortality rate at the City Hospital is made much larger from the number of moribund cases which enter; but the rate of mortality cannot be regarded as excessively high, I think, as compared with statistics from other countries.

DR. LYMAN then presented the following resolution, which was read by the Secretary:

Resolved: That a committee of three be appointed by the Chair to confer with the Board of Health as to the desirability of further measures to limit the spread of diphtheria in Boston. The resolution was adopted.

The Chair appointed Drs. G. H. Lyman, G. B. Shattuck, C. F. Folsom, as that committee.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

THE PARIS SCHOOL OF MEDICINE. II.

There is only one university in France, one degree, that of Doctor of Medicine, which is conferred by various faculties already named. There is one system of hospitals, all alike open to the student for his one fee. The degrees of Doctor of Surgery and Doctor of Medical Science, may be considered practically obsolete, as one thinks of taking them. Medical teaching in Paris may be divided under the heads of the theoretical teaching given at the Schools of Medicine, and of the hospital teaching which comprehends clinical courses associated with clinical experience. The immense majority of French and foreign students in Paris follow both the official courses of the Faculty and the gratuitous courses given by the physicians or surgeons of the hospitals and unattached teachers. In his third year every student is obliged to attend the hospital regularly, as "stugiaire," or "externe," or "interne." The stugiaires are students following their curriculum, and are divided among the different series of services, medicine, surgery, and midwifery, according to their choice, and must follow the visits of the medical officers during two years, with power to pass from one hospital to the other, but under the obligation to furnish certificates of attendance at the hospitals during 300 days in each year. Students who desire to undertake hospital studies apart from the obligatory curriculum, can attend any of the hospitals under the title of "bénévoles," that is to say, they are not called upon to pay any fee, and they can attend at their pleasure. This privilege is enormously valuable to foreign students. Foreigners are admitted to competition for the "internat" and the "externat." The office of externe or interne can only be obtained

by competitive examinations, and that of interne lasts for four years, and is the stepping-stone to further higher nominations, such as Chefs de Service, and hospital physicians or surgeons. The medical clinics of the Faculty are four in number. For clinical medicine we have Professors Germain Sée at the Hôtel Dieu, Jaccoud at the Pitié, Potain at the Charité, and Peter at the Necker Hospital. For clinical surgery, we have Professors Richet at the Hôtel Dieu, Verneuil at the Pitié, Trélat at the Charité, and Le Fort at the Necker. Besides these official clinics there are a certain number of physicians and surgeons in the hospitals whose voluntary courses are followed. Among these may be mentioned those of Drs. Tillaux at the Hôtel Dieu, Péan at Saint Louis, Labbé at Beaujon, in surgery; and in therapeutics, those of Drs. Dujardin-Beaumetz at Cochin, Huchard at Bichat, and Jules Simon at the Hôpital des Enfants Malades. Foreign students and practitioners who come to Paris to supplement or complete their studies, the whole of the resources of the Faculty of Paris and that of the hospitals are open to them, and those who wish to give themselves up to some specialty have ample opportunities for doing so. Those who wish to study the diseases of the skin will find at the Hôpital Saint Louis unrivalled material. The official course is delivered by Dr. Tourmer, the celebrated syphilographer. For nervous diseases we have Professor Charcot at Salpêtrière, for mental disease, the official course of Professor Ball and the clinique of Dr. Magnan at the Saint Anne Asylum. For diseases of the eyes there is the official clinique of Professor Panas at the Hôtel Dieu. There are a great number of clinics carried on by unattached medical men, who do not form part of the medical corps of the hospitals which the students can follow without being required to pay any fee. These are conducted by Drs. Landolt, Galezowski, and de Wecker, for ophthalmological study, which is also treated of at the hospitals of the Quinze-Vingts. In the study of pathological anatomy may be noted the necropsies of the clinical service of Professor Germain Sée, which are performed at the Hôtel Dieu by Professor Cornil. The teaching of legal medicine, from a theoretical point of view, is carried on at the Faculty, while the practical part of the same branch is carried on at the morgue, both under the direction of Dr. Brouardel, Professor of Forensic Medicine, and Dean of the Faculty. Venereal diseases are especially studied at the Hôpital du Mide for men, and at Lourcine for women. For diseases of the throat there are special consultations held at the Lariboisière by Dr. Gougenheim. For diseases of the ear there are the institutions for the deaf and dumb, at the consultations of which all foreign students are admitted. For accouchments the Clinique of the Faculty, and the maternités of the hospitals, di-

rected by Professor Tarnier at the former, Drs. Budin and Pinard at the Lariboisière and the Charité, respectively. One of the most important special clinics is that conducted by Professor Guyon, at the Necker Hospital, for diseases of the urinary organs. All foreign practitioners or students can attend without payment all the clinics and all the visits of the Professors, and obtain all the information that they desire. They can also by moderate payments obtain private courses of lessons, either from the Internes or from the Chefs de Clinique, at their evening visits at the hospitals. The extensive and important laboratories of MM. Ranvier, Brown-Séquard, Marey, Dastre, etc., at the College of France, are also open to all native and foreign students. Candidates for the office of physician, surgeon, or obstetric officer at the hospitals, are admitted to "concours" on producing evidence of being natives of France, or naturalized, and of having had the degree of Doctor of Medicine for two years, at least. They have to undergo a written and oral examination on the various branches of medicine and surgery. The post of Assistant Professor, or Agrégi, is also filled up after competitive examination.

Dr. Legouest, the well-known military surgeon, died on the 5th inst., at his residence in Paris, in the 69th year of his age. He was Inspector-General of hospitals, and former President of the Council of Health of the Army. He was also Professor of clinical surgery at Val-de-Grâce, and was raised to the dignity of Commander of the Legion of Honor in recognition of his valuable services. He was a member of the Academy of the Medicine since 1867, in the Section of Surgical Pathology. He was President of the Academy in 1881. He was the author of several important works, of which the following may be selected from among them. Besides his thesis for the doctorate in 1845, he published a memoir entitled: *Kystes symbiaux du poignet*, in 1857; *La Chirurgie Militaire Contemporaine*, in 1859; *Une Conférence sur le service de Santé*, in campagne 1868; *Le Service de Santé des Armées Américaines pendant la guerre des Etats Unis de 1861 à 1866*; *Etude sur la salubrité des hôpitaux militaires de Paris*, in 1864; *Traité de Chirurgie d'Armée*, in 1872.

A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM CINCINNATI.

(FROM OUR OWN CORRESPONDENT.)

Commencement Exercises at the Medical and Dental Colleges—Cincinnati Academy of Medicine.

The Cincinnati College of Pharmacy held its seventeenth annual Commencement at Musik Verein Hall on the evening of March 14. After the exercises the usual banquet was given. There

were eighteen graduates from the College of Pharmacy this year.

The Commencement exercises of the Cincinnati College of Medicine and Surgery were held in the Scottish Rite Cathedral February 26, where they graduated thirty-two Doctors of Medicine. This is the largest class to leave this institution for some years. Dr. R. C. Stockton Reed made the address of the Dean, and the valedictory address was given by Dr. C. A. L. Reed.

The Commencement of the Ohio College of Dental Surgery was largely attended at College Hall on the evening of March 4. Sixty-five Doctors of Dental Surgery were graduated. The address was made and degrees conferred by Dr. C. R. Taft, as Dr. George W. Keeley, President of the Board of Trustees, had died within the last year. The address to the students was delivered by Mr. E. D. Warfield, the oration by H. M. Paxton. Prof. H. A. Smith, Dean of the Faculty, awarded the prizes, and the exercises were followed by a banquet at the Burnet House for the graduates, faculty and alumni.

The Miami Medical College, at its Commencement at the Odeon the evening of the 6th of March, graduated a class of twenty-two. The remarks by the Dean, Dr. Wm. H. Taylor, were followed by an address from Hon. W. H. McGuffey, President of the Board of Trustees. The valedictory address was delivered by Dr. Byron Stanton, Professor of Gynecology. Dr. Stanton discussed the care of the public health, which field is in his line as Health Officer of the city. The Faculty Prize, \$100 in gold, was awarded Dr. H. E. McVey, of Mt. Blanchard, O. The largest and most enthusiastic meeting of the alumni for some time was held at the Burnet House, where a very enjoyable banquet was given. The Association elected as President, Dr. L. M. Buchwalter; Secretary, Dr. J. C. Oliver. The retiring President, Dr. W. C. Chapman, of Toledo, made a very interesting valedictory address. Dr. Dan. Millikin, of Hamilton, was an excellent toastmaster, and the responses to the various toasts were made in the happiest vein. Two members of the Association were expelled for advertising.

At the seventieth annual Commencement of the Medical College of Ohio eighty-six Doctors of Medicine were graduated. This was held in the Odeon March 7. Dr. W. W. Seely made some short, pointed remarks as Dean of the Faculty. He was followed by the address of the President of the Board of Trustees, Hon. Wm. H. Dickson, who delivered the diplomas. This speaker paid his respects to the neglect of the duties of the politician by physicians. His interesting address urged more attention to the affairs of the country by doctors and the assumption of an active part therein. The Faculty Prize for the best final examination in all departments was captured by Dr. Erwin O. Strachley, of Cincinnati. Dr. For-

cheimer, Professor of Physiology and Diseases of Children, delivered the valedictory address, advocating his subject, "Specialism in Medicine," with many good arguments.

The alumni of the Medical College of Ohio met at Memorial Hall the afternoon of March 7. An address was made by the President, Dr. S. J. Spees, of Hillsboro, Ohio. "Politics and the Doctor" was the subject of the annual address, delivered by Dr. Miles F. Porter, of Fort Wayne, Ind. The matter of the publication of the early history of the College from 1819 to the present was placed in the hands of a committee.

At a recent meeting of the Academy a report was made by a gentleman on the radical cure of hernia. His paper was very able and was listened to with close attention. At the end he wished to show three male patients on whom he had operated successfully. Two lady members of the Academy were present and the men positively refused to exhibit unless the ladies absented themselves. The President descended from his chair and asked the ladies to be kind enough to retire, which they did. The patients then took their stand on the rostrum and were inspected by all present who wished to do so. At the next meeting one of the ladies, having taken offense at being deprived of her inalienable rights, immediately after the reading of the minutes demanded an explanation of why she had been excluded from a part of the previous meeting. The President tried to satisfy the lady M.D. with an evasive answer which was rendered all the more transparent by the diffidence with which it was given. The lady asked with renewed emphasis why she was requested to withdraw, and still remained unsatisfied when the President told her that the men refused to exhibit themselves unless the ladies were absent.

MC. K.

Commencement Exercises of the Chicago Medical College, Medical Department of the Northwestern University.

Mr. Editor:—While attending the Thirtieth Annual Commencement Exercises of the above-named college, on the 26th of March, 1889, I noted the following items that will be of more or less interest to your readers in all parts of the country. The college was organized on the basis of a strictly graded system of medical education, and requires a fair standard of preliminary education for admission, three full years of medical study, including three annual courses of medical college instruction of not less than six months each, with laboratory and hospital clinical attendance two college courses. During the college year just closed the classes in attendance numbered as follows: 1st year class 79; 2d year class 52; 3d year class 51; making a total of 182.

After music, and the opening prayer by Rev.

Joseph Cummings, D.D., L.L.D., President of the University, the Dean of the medical faculty announced the awarding of the following prizes :

The Fowler Prize, being a case of test lenses worth \$100, given by E. S. & W. S. Fowler, of Chicago, to that student of the Chicago Medical College who at the close of this session shows the most proficiency in theoretical and practical optics, was awarded, after careful examination, to Carleton Montville Balfour, of Kansas.

The Fuller Prize, of \$25, for the best graduating thesis on Puerperal Fever was divided. Of the competitors two show such equal merit that the committee concluded to divide the prize and give one-half to Abraham Lincoln Blesh, of Kansas, and one-half to E. J. Boeseke, of California.

A prize, consisting of a case of amputating instruments, offered by Dr. A. J. Coey to the member of the Clinical Class in Mercy Hospital who should write the best thesis on the Differential Diagnosis of Injuries of the Hip-joint, was awarded by the proper committee to E. J. Boeseke, of California.

The Faculty Prize for the best thesis has been awarded to the author of the thesis on the "Etiology, Pathology and Treatment of Thermic Fever," Francis William McNamara, of Illinois. This thesis is not only well written but it also contains the results of some important original investigations. The theses of Pierrepont Isham Prentice, George William Harkins, Daniel Webster Eiss, and James Perry Houston, are also worthy of special commendation.

Ingals Prize.—Two years since, Dr. Ephraim Ingals, well known as one of the older and most highly esteemed physicians of this city, wishing to encourage a higher standard of general education and mental discipline for students of medicine, instituted a prize of \$100, to be awarded to the member of the graduating class in this College who should attain the highest average standing in literature, science and medicine; the same to be determined by a committee of the medical faculty. One year since, in furtherance of the same object, Dr. Geo. Wheeler Jones, of Danville, Ill., offered a prize of \$50, to be awarded to the member of the graduating class of 1889 who attained the second position in the contest for the Ingals prize. The committee having charge of the examination for these prizes required the same to be conducted in writing, and to include, under the head of *Literature*, English composition, rhetoric, logic, history, and English literature; under *Science*, algebra, physics, botany, natural history, and the topography and geology of the United States; and under *Medicine*, all the branches of medicine and surgery included in the curriculum of the medical college. All who entered the contest were graduates of literary colleges or universities, some in the East and some in the West. After careful

comparison of the results of the examination the committee unanimously awarded the Ingals Prize of \$100 to James Perry Houston, of Ohio, and the Jones Prize of \$50 to Leonard Lawshe Skelton, of Illinois.

In formally presenting the graduating class to the President of the University for the degree of Doctor of Medicine, the Dean of the medical faculty gave the following interesting items of their collegiate history :

The class entered the College as first year students in 1886, numbering 53, and were examined at the close of that college year in all the branches of the first year course. Only 37 of the number returned for the second year course, 16 having been lost; but 10 new students coming from other colleges were admitted by examination for advanced standing, making the number for the second year 47. Of this number 43 returned for the third year course, 4 only having been lost. To these 8 who had spent two years in other medical colleges were admitted by examination for advanced standing, making the whole number in the third year class 51. Of these 46 were presented by the President of the University, as having complied with all the requirements of the College and passed satisfactorily all examinations, for the degree of Doctor of Medicine. Of this number 18, or a fraction less than 40 per cent., were regular graduates of literary and scientific colleges, and the remaining 28 had pursued academic and collegiate studies from one to five years before commencing the study of medicine.

The whole number of matriculates in the College this year being 182, it will be seen that the ratio of graduates to matriculates is only a fraction over 25 per cent. Such is the result of a rigidly graded and faithfully executed three years course of medical studies.

S. M.

MISCELLANY.

STATE MEDICAL SOCIETY OF TENNESSEE.—This Society will meet in annual session at Nashville, April 30, and continue in session three days. Tickets to Nashville can be bought at that time in all the Southern States at one fare for the round trip, good for ten or more days. G. C. Savage, M.D., Chairman Com. of Arrangements.

SEVENTH DECENNIAL CONVENTION FOR REVISING THE PHARMACOPEIA OF THE UNITED STATES OF AMERICA.—Notice is hereby given that, in accordance with and by virtue of the authority vested in me by the Convention of 1880, I hereby call upon the several incorporated Medical Societies, incorporated Medical Colleges, incorporated Colleges of Pharmacy, and incorporated Pharmaceutical Societies throughout the United States of America, the American Medical Association, and the American Pharmaceutical Association, to elect a number of delegates, not exceeding *three*, and upon the Surgeon-General of the Army, Surgeon-General of the Navy, and the Surgeon-General of the Marine-Hospital Service, to appoint, each, not exceeding *three* medical officers to at-

tend a General Convention for the Revision and Publication of the Pharmacopœia of the United States of America, to assemble in the city of Washington, D. C., on the first Wednesday of May, 1890 (May 7th), at twelve o'clock noon.

The several bodies, as well as the Medical Departments of the Army, Navy, and Marine-Hospital Service, are hereby requested to submit the Pharmacopœia to a careful revision and to transmit the result of their labors to the Committee of Revision at least three months before the meeting of the General Convention.

The several medical and pharmaceutical bodies are hereby requested to transmit to me, as the President of the Convention of 1880, the names and residences of their respective delegates, as soon as they shall have been appointed; a list of these delegates shall thereupon be published under my authority, for the information of the medical public, in the newspapers and medical journals in the month of March, 1890.

In the event of the death, resignation or inability of the President of the Convention of 1880 to act, these duties (in accordance with the resolution of that Convention) shall devolve, successively, in the following order of precedence: upon the Vice-Presidents, the Secretary, the Asst. Secretary, and the Chairman of the Committee of Revision and Publication of the Pharmacopœia.

These officers are as follows: First Vice-President, Samuel C. Busey, M.D., of Washington, D. C.; Second Vice-President, P. W. Bedford, Ph.G., of New York; Secretary, Frederick A. Castle, M.D., of New York; Assistant Secretary, C. H. A. Kleinschmidt, M.D., of Washington, D. C.; Chairman of Committee of Revision, Charles Rice, Ph.D., of New York; First Vice-Chairman of the Committee of Revision, Joseph P. Remington, Ph.D., of Philadelphia, Pa.; Second Vice-Chairman of the Committee of Revision, C. Lewis Diehl, Ph.G., of Louisville, Ky.

At the General Convention held in Washington, D. C., on the fifth day of May, 1880, the organizations and bodies enumerated in the Abstract of the Proceedings of the National Convention of 1880, on pp. xv. to xviii of the U. S. Pharmacopœia of 1882—a list of which will be found appended to this call—were recognized as being entitled to representation.

If any body other than those admitted in 1880 shall desire a representation in the Convention of 1890, it is suggested that the proof of incorporation, signed by the Secretary of State, of the State which shall have issued the charter, or by properly qualified public officials of the United States, be presented with the credentials of the delegation.

A blank form of certificate of appointment of delegates will be sent upon application by letter to my address, care of Dr. Edwin H. Brigham, Assistant Librarian of the Boston Medical Library, 19 Boylston Place, Boston, Mass. (Signed)

ROBERT AMORY, Pres't of the Convention of 1880.
Boston, March 9, 1889.

LETTERS RECEIVED.

Dr. John P. Stoddard, Muskegon, Mich.; Dr. Wm. B. Canfield, Baltimore, Md.; Dr. J. H. Fiegenbaum, Alton, Ill.; J. J. Kindred, Louisville, Ky.; Dr. J. T. Cron, Carrollton, Ill.; E. W. Woodruff, Black Lick, O.; Parke, Davis & Co., Detroit, Mich.; Dr. G. C. Savage, Nashville, Tenn.; Dr. A. L. Hummel, Philadelphia; Dr. Willis P. King, Kansas City, Mo.; Dr. John I. Miller, Wellston, Mo.; Dr. Leonard St. John, Chicago; Plimpton Mfg. Co., Hartford, Conn.; I. Haldenstein, New York; New York & Chicago Chemical Co., New York; Thos. Leeming & Co., New York; American Advertising Agency, Cincinnati, O.; Dr. Russell Bayly, New York; Dr. Willard Streetman, Sweetwater, Tex.; Dr. M. W. White, Sioux City, Ia.; Miss Maggie Kennedy, Carterville, Illinois; Eisner & Mendelson Co., New York; A. E. Walesby, O.

Stubville, Louisville, Ky.; J. Walter Thompson, New York; Clark Bell, New York; Dr. E. Fletcher Ingals, Chicago; Dr. R. J. Dunglison, Philadelphia; J. S. Dorsey, Baltimore, Md.; F. T. McFadden, New York; Longmans, Green & Co., New York; Dr. S. B. W. McLeod, New York; Walter Baker & Co., Boston; Boston Gynecological Society; Cincinnati Polyclinic; Dr. Hamline, Marysville, Cal.; A. M. McLaurie, New York; Ward Bros., Jacksonville, Ill.; Dr. J. W. Park, Williamstown, Pa.; Dr. Charles F. Disen, Seattle, W. T.; J. B. Imhoff, Chester, Pa.; Dr. W. H. Keller, Jersey City, N. J.; Dr. Emil Pfeiffer, Wiesbaden; M. Goltman, Montreal, Can.; Thos. S. Blair, Ann Arbor, Mich.; Dr. G. W. Galloway, Findlay, O.; D. Kimball, Chicago; Nugent, Brown & Co., Fargo, Dak.; Provident Chemical Works, St. Louis; Lambert Pharmaceutical Co., St. Louis; Wm. Burnett, Montreal, Can.; Dr. Moreau R. Brown, Chicago; Eisner & Mendelson Co., New York; J. H. Basinger, Louisville, Ky.; L. Victoria Hampton, Portland, Oregon; Union Pacific Railway Co., Omaha, Neb.; Dr. Richard J. Dunglison, Philadelphia; Henry Bernd & Co., St. Louis; Dr. H. B. Ransom, Chicago; New York Pharmaceutical Co., Bedford Springs, Mass.; Dr. L. Duncan Bulkley, New York; James Pyle & Sons, New York; Dr. G. W. Hubbard, Nashville, Tenn.; Dr. P. R. Burns, Nashville, Tenn.; Dr. J. S. Cameron, Wichita, Kan.; Dr. S. W. Crosthwaite, Nashville, Tenn.; Dr. J. W. Dickson, Orangeburg, S. C.; Dr. J. P. Dyson, Nashville, Tenn.; Dr. O. W. James, Chattanooga, Tenn.; Dr. J. J. Masy, Paducah, Ky.; Dr. C. McCarthy, Macon, Ga.; Dr. G. Phipps, Nashville, Tenn.; Dr. H. L. Phipps, Navassota, Tex.; Dr. J. M. Thompson, Birmingham, Ala.; Dr. R. S. White, Nashville, Tenn.; P. W. Garfield, Cleveland, O.; Rio Chemical Co., St. Louis; J. Walter Thompson, New York; E. A. Smith, Burlington, Vt.; Dr. A. E. Baldwin, Chicago; Dr. N. S. Craig, Brookhaven, Miss.; Wm. J. Dornan, Philadelphia; W. B. Clark, Baltimore, Md.; Dr. J. A. Robison, Chicago; Dr. W. C. Coombs, Wichita, Kan.; E. Merk, New York.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 23, 1889, to March 29, 1889.

Asst. Surgeon Richards Barnett, U. S. Army, died March 27, 1889, at Ft. Riley, Kan.

Capt. Louis M. Maus, Asst. Surgeon (Ft. Schuyler, N. Y. H.) will proceed to Camp S. B. Luce, Fisher's Island, N. Y., with battery "K," 5 U. S. Artillery, and report to the camp commander for a tour of rifle practice. Par. 10, S. O. 158, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, August 2, 1889.

Altanta Bks., Ga. Established by G. O. 28, A. G. O., March 21, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 30, 1889.

Asst. Surgeon Thos. A. Berryhill, detached from Naval Academy, Annapolis, Md., and to the Naval Hospital, New York.

P. A. Surgeon A. C. Heffenger, ordered to appear before the retiring board, Washington, D. C.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Four Weeks Ending March 23, 1889.

Asst. Surgeon G. M. Magruder, to report to the Supervising Surgeon-General in person for temporary duty. March 1 and 23, 1889.

Asst. Surgeon J. J. Kinyoun, relieved from duty at Baltimore, Md., to rejoin station at New York, N. Y., March 18, 1889.

Asst. Surgeon J. C. Perry, commissioned by the President, March 21, 1889. Ordered to Marine Hospital, Mobile, Ala., for temporary duty. March 22, 1889.

Asst. Surgeon A. C. Smith, commissioned by the President, March 21, 1889. Ordered to Marine Hospital, Louisville, Ky. March 22, 1889. Temporary duty.

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No. 15.

ORIGINAL ARTICLES.

THE USE OF ELECTRICITY IN THE TREATMENT OF DISEASES OF THE FEMALE PELVIC ORGANS.

*Read before the Medical Society of the District of Columbia,
December 10, 1888.*

BY J. WESLEY BOVEE, M.D.,
OF WASHINGTON, D. C.

Electricity is not unlike all other things in medicine, as regards its invariable tendency to do good even when applied under the most favorable conditions and in the most careful manner. Yet, a great deal of good can be done with it when it is wisely used. It has, I think, been used in medicine about sixty-five or seventy years, and during that period nearly all diseases have been subjected more or less to its influence—usually without any regard to system and frequently without any evidence of reason. This is probably due to the lack of knowledge as to its method of influencing living tissues. During the last few years it has received more attention from scientific men, and its effect upon the human system has been quite thoroughly investigated. The conditions in which it is likely to prove valuable as a means of treatment, have, to a great extent, been classified. For about three years it has been carefully studied in relation with female pelvic troubles, such as fibroid tumors, inflammatory deposits of long-standing, subinvolution and ovarian neuralgia.

The treatment of extra-uterine pregnancy in its first few months has probably become the greatest field for it, inasmuch as many so-called cases have, in this country, been reported cured by it, and the majority of prominent gynecologists of this country prefer its application to the use of the knife during the first five or six months of this condition. No uniform rules are followed in its application to erratic gestation, some preferring the faradic current, but most advocating the galvanic—claiming it is less liable to produce rupture of the gestation sac. But few of these cases have, I think, been positively diagnosed, and I believe in but two or three cases in which electricity has been used for this unfortunate condition, have the products of conception

actually been seen. I saw one of these, and assisted in removing, per vaginam, a five months' fœtus from Douglas' cul-de-sac. The reporter of the case claimed to have diagnosed the condition during the thirteenth week, and began applying the galvanic current. This was continued about three weeks, and the extra-uterine growth continued to increase in size after the use of the galvanic current was discontinued. It is interesting to know that electricity was passed through the pelvic organs two or three times during the month, just after the last menstrual period. I can hardly attribute the death of this fœtus after the end of the fifth month to the use of the galvanic current between the twelfth and the fifteenth week.

Great claims are being presented for the efficacy of the galvanic current in dispersing fibroid tumors of the uterus. Particularly is it advocated in this class of cases by Apostoli, Keith, Newman, Freeman, Engelmann and Cutter. Its value in this direction is, I believe, overrated.

In two cases that I had diagnosed uterine fibroids, the growths disappeared after several applications of the electric current. One of these was, as I thought, a fibroid of about one and one-half inches in diameter, situated in the posterior wall of the uterus. The woman's general health was bad, but rapidly improved while using a mild galvanic current twelve times in four weeks. At the expiration of the time mentioned, the uterus had become perfectly normal. My diagnosis was made the first time I saw her, and three subsequent examinations did not lead me to doubt the correctness of it.

The other case was multiple fibroids of the uterus and very troublesome. In this case I used the faradic current to relieve pelvic symptoms. These tumors also disappeared. I believe, however, the electric current was not the real factor in their removal, inasmuch as such growths frequently disappear without any treatment whatever. The other case, I now believe, to have been incorrectly diagnosed, that no tumor existed, and that something else was the enlargement I felt—possibly a hypertrophic thickening of the posterior wall of the uterus. My reason for thinking I erred in the diagnosis is that I

have treated with galvanism quite a number of patients suffering with uterine fibroids of various sizes, shapes, locations, etc., the treatment in most of them being diligently pursued for some months, and in none of them, except the above mentioned, did I notice any diminution in the size of the growth during the treatment. One of the two cases cited was one of the first subjected to this kind of treatment, and I was then too enthusiastic in the work to pause for impartial reasoning or to think I might be wrong.

At any rate, I cannot see what reason the advocates of "electrolysis of fibroids" have for so terming the electric action they describe. Certainly no breaking up of the chemical constituents of the growths occur, except, perhaps, some simple salt like sodium chloride is decomposed. But the albumenoids and other complex proximate principles are not broken up, consequently electrolysis does not occur.

Even if it does take place at the poles chemical change does not extend any appreciable distance into the growth. In hard fibroids of from nine to twelve inches in diameter, I cannot conceive how any electrolytic action can take place throughout the tumor, without irreparable damage to the delicate adjacent tissues. How can a current so powerful be confined to the growth when the surrounding more delicate tissue has so much greater conductivity.

The galvanic current has been used considerably in the treatment of inflammatory deposits about the uterus, punctures having been made and powerful currents used as in the treatment of fibroids. I believe mild currents, if applied oftener and longer, both in duration of application and period of treatment, will prove more serviceable. This has been the plan of treatment of the cases related in this paper.

The profession, in general, has not shown much ambition in the treatment of acute inflammations with electricity. I have frequently used it in decidedly acute inflammations, and even in the first stage with most excellent effect. I was pleased by a short article on that subject by Dr. E. H. Grandin, of New York, that appeared in an August number of the *Medical Record*, (Vide vol. xxxiv, 204, 1888.) My limited experience is in accord with that of Dr. Grandin. I think the electric current, either the galvanic or the faradic may many times be wisely substituted for the knife in diseases of the ovaries and oviducts. Mr. Lawson Tait, basing his opinion upon a few cases that came to him for operation after having been treated by electricity (no description of this treatment being offered), denounces strongly, the application of electricity for such cases, (Vide *Medical Record*, N. Y., 1888, xxxiv, 553.) I do not believe that had Mr. Tait given electricity a fair trial in his own practice he would have yet reported his second thousand of consecutive ab-

dominal sections. He has become so expert in abdominal surgery that I doubt his allowing this form of treatment to be superceded by any other, without great reluctance.

I have had a few cases in which the action of the continued galvanic as well as the faradic current has been positively intolerable. The history of one of them appears in this paper (case No. 8).

Certainly case No. 7 was far more nervous than this patient, yet the effect was so decidedly opposite to the result in No. 8.

There is a class of cases that cannot tolerate the application of electricity—not even the amount of electro-motive force just sufficient to overcome the resistance of the tissues through which it passes. I am unable to see anything about these patients that could, in any respect account for the intolerance of the current. It is probably an idiosyncrasy that will only be known after attempts to apply the current have been made. The batteries I have used were made by Waite & Bartlett, of New York, and have been faithfully cared for. I have usually applied the galvanic current just strong enough to be not uncomfortable to the patient. Each séance usually lasted from fifteen to thirty minutes, and usually repeated on alternate days, but occasionally, applications were made every day. The treatment was usually supplemented by tamponnement with small woolen pledgets that were left *in situ* until just before the patient was to return for another treatment. The galvanic current was used in every case, and occasionally the faradic current was employed for its tonic effect, and for the relief of pain. It was usually successful in both of these, and its salutary effect upon constipation was occasionally noticed. I append the histories of a few cases, mostly chronic, pelvic inflammations showing the effect of the mild, galvanic current.

Case 1.—Mrs. W., æt. 31 years; widow; has three children, the youngest being 3 years old. Last confinement severe—finally delivered instrumentally. Has been an invalid since that event, cannot walk one block; suffers very much with pain in "bottom of stomach"—constant fear her "insides" will fall out; constipated; has continuous discharge from bowels. Menses regular and profuse; appetite poor; general condition bad. I first saw her when she came to my office in a carriage, July 29, last.

An examination revealed perineum torn almost into bowel, and a glairy discharge from rectum. The uterus was very low, considerably enlarged, and firmly retained in a retroverted position by the dense and thick adhesions from a former cellulitis. The cervix uteri was deeply lacerated bilaterally. I applied the galvanic current for twenty minutes, placing the positive pole against the roof of the vagina and the negative on the abdominal wall just a little above the symphysis

pubis, and applied a few woolen pledgets against the retroverted fundus uteri for gradual pressure. I also gave her the following: *R. Tr. nucis. vomicæ, tr. belladon. āā ʒss. m. et. sig. 15 drops t.i.d. in water.* This treatment was continued quite regularly three times a week, until October 9, when the pelvic deposit having been entirely absorbed, the uterus in good position, and the patient's general condition much improved, I operated for the perineal and cervical tears. The union was complete in both localities, and three weeks later, she resumed her household duties. November 25, I examined this patient, and found the pelvic organs in a perfectly healthy condition. A Simpson sound passed into uterus three inches. She said she had gained thirty pounds in weight since August 1, last, notwithstanding the two operations she underwent in the meantime.

Case 2.—Mrs. H., white, æt. 32 years; came to me September 31, last, and gave the following history: At the age of 20 years she married and had two children, both of which are now living. Her husband died six years later. During one of her confinements the cervix uteri was torn, and she had womb trouble following it. During her widowhood she was operated upon for the laceration, and was married again about two years ago. She felt well until last spring, when she had an abortion produced, and was in bed about three weeks following it. The doctor told her she nearly died from fever. Has not felt well since, is thin, delicate and nervous; suffers with profuse menstrual flow every three weeks, and constant bearing-down pain with headache. After walking a short distance she is obliged to lie down. An examination revealed the uterus retroverted and bound down by a firm pelvic exudate on every side. The sound passed three inches, the cervix tender, considerable catarrhal discharge was seen oozing from its canal. Applied a solution of silver nitrate (20 grains to ʒj) to cervical canal and dry wool tamponade to posterior fornix vaginæ. Two days later she returned, and I began a course of treatment by the galvanic current, as in case 1, extending the séance to thirty minutes and applying the wool as before. October 16, made the seventh application.

I succeeded in replacing the uterus, which has no tenderness nor catarrhal discharge. Patient states she has gained six pounds since her first visit, and feels comparatively good. November 4 to 6, menstruated—no pain and normal quantity. Treatment continued until November 16, when it was discontinued. The uterus was then in normal position, sound passed two and three-fourth inches, and no pelvic adhesions can be found. She feels perfectly well.

Case 3.—Mrs. H., white, æt. 34 years; married. I was called to see her June 28, last, and found her

suffering with a large pelvic abscess to the left of and behind the uterus, reaching up into left inguinal region. She had been married twelve years and had three children. Since the birth of the last child, she has had three abortions. Since her last confinement, six years ago, she has suffered with womb trouble; menstruation occurred in latter April, but she did not think she was pregnant again, as no symptom as in former pregnancies was present, except nervousness. She was taken with severe pelvic pains with hæmorrhage from the uterus on the 17th of June. This began without warning a short time after coming in from a drive behind a fractious horse that afternoon. The pains continued until near morning, when her doctor said she passed something that she now thinks was the result of another abortion. She had fever a few days later and great swelling and pain in lower abdomen. She suffered so much with pain, that her doctor gave her suppositories of morphia and belladonna, but the fever had never gone away. On my first visit I found her in bed, with a feeble pulse, some fever and a hectic flush to cheeks; an eruption all over the body, that she stated had appeared during the past week. I attributed it to the use of belladonna, and it shortly disappeared after I stopped the suppositories. The uterus was found enlarged, immovable, and very tender. It was pushed forward and to the right by a large abscess that was quite prominent in left inguinal region; fluctuation was distinct through Douglas' pouch as well as through abdominal wall. Considerable sanious discharge from uterus was present. The same day I opened the abscess through the abdominal wall and let out about a quart of yellow pus. A grooved director was then pushed through the vaginal roof in the median line, behind the cervix uteri against my right index finger, in the bottom of the abscess cavity. Through the new opening I forced my left index finger. The cavity was then flushed with about a gallon of hot solution of corrosive sublimate, 1 to 1,000. A long rubber drainage tube was passed through the abdominal opening and pulled out through vagina. The solution of mercuric chloride was used for cleansing the wound. Patient rapidly improved, and the abscess was healed by the 10th of August. August 27, she came to my office. Had just had a troublesome and profuse menstrual period and felt weak, complained of little jars received in riding on street car. The uterus was found still immovable, somewhat enlarged, very hard and settled back to a position about normal. The whole pelvic organs seemed to be in a mass as if set in plaster of Paris. I began using a mild galvanic current, the positive pole applied to vaginal roof performing the work. The current was used twenty minutes, and this frequently followed by the negative pole of the faradic current along the spine

for five minutes. She was also given the following prescription :

R. Hydrarg. bichlor. gr. jss.
Tr. ferri chlor. ʒv.
Syr. zingiber. ʒj.
Aque ad ʒiv.
℞. et. sig. Teaspoonful in water after meals.

This treatment was continued until October 26, at which time she was obliged to return to her home in Pennsylvania. The galvanic current had been applied about three times a week. At her last visit she stated she had just passed her menstrual period, and with very little inconvenience. A careful examination was made at this time. Her general condition was much better and she complained very little. The uterus was fairly movable, although no smaller, but the pelvic exudate was lessened in amount and softened.

Case 4.—Mrs. S. M., a widow, 44 years old, first came to me June 15 last. She had had three children, the last of which was born fourteen years ago. This labor was severe; she was delivered by forceps and torn. She had child-bed fever and made a bad getting up. She has suffered ever since with profuse menstruation every three weeks, sometimes oftener, and a sensation of weight in her stomach. Large clots were passed every time she was unwell, and the prostration incident to each attack would hardly be overcome in the interval following it. She has been treated by three or four physicians, all of whom told her her trouble was fibroid tumors of the uterus and treated her with ergot and other remedies. Her last physician, after a course of treatment extending over six months, told her relief would come only with the change of life. Her appetite was poor and the feeling of weight pronounced. I found the perineum torn down to sphincter ani muscle, the vaginal walls flabby, and the uterus symmetrically enlarged to about twice its natural size, a little lower than it should be and fixed. The cervix was bilaterally lacerated almost to the cervico-vaginal junction and the vaginal roof thickened and very dense. I could not find a fibroid tumor, and so informed her. I applied the galvanic current as in the other cases, with the occasional application of the positive pole to the interior of the uterus a few days before the expected flow. Dry woolen pledgets were also placed against roof of vagina, sufficiently large to cause slight upward pressure. I noticed the intra-uterine electrode passed the first time $4\frac{1}{2}$ inches. She improved considerably, the hemorrhages lessened in amount and frequency. Early in August the intra-uterine electrode would pass but $3\frac{1}{2}$ inches. The flow did not appear in September until near the natural time, and in October it was quite four weeks later, lasting but three days and containing no clots. It did not appear at all in November—no premonition of it even appearing.

November 3. The uterus is movable to a considerable degree, and is smaller, its cavity measuring but 3 inches. There is yet some thickening of the vaginal roof.

Case 5.—Miss C., æt. 32 years, white, first came under my care July 12 last, when she came to my office, accompanied by her mother. Her history is as follows:

Began menstruating at 12 years, has never missed a period, nor been free from pain at that time. Has become very severe during the past two years, requiring her to take $\frac{1}{2}$ gr. morphia suppositories, and to remain in bed the day preceding the beginning of the flow, and during the first two days of it. The last period was the worst of her life and she dreads the next—three weeks off.

During the intermenstrual periods she has a dull, heavy pain in lower part of abdomen, most marked on the left side. Her appetite is poor and she is troubled with constipation. Has been treated in Richmond and Philadelphia. She and her mother feared the ovaries would have to be removed, as that had been advised in Richmond, and in Philadelphia they were told nothing else would cure her. She readily consented to an examination, which revealed a small, retroflexed uterus and enlarged and unusually tender ovaries which could be fairly well outlined by the bimanual method of examination, the patient lying in the lithotomy position. They were low but movable. I began to use the galvanic current that day, applying it every day thirty minutes. The current was very comfortable to the patient. After it was stopped I applied a small pledget of wool against the fundus uteri and allowed it to remain there until just before her return the next day. Once I had to give her a mild laxative. This treatment was continued until she came August 4. She preferred no treatment that day, as she felt she was going to be unwell soon. She was suffering from pain through the pelvis. She consented, however, to be treated, and I applied the positive pole of a mild faradic current to the uterine cavity for about ten minutes—the negative pole being placed over hypogastrium. She began menstruating during the following night and had very little pain, but remained in bed for two days. The flow lasted four days.

August 11. Patient returned and treatment resumed. An examination at this time showed the ovaries to be less tender and their position a little higher. I pursued the treatment of this patient diligently, hoping to render oöphorectomy unnecessary.

The next menstrual period was passed with but slight uneasiness and she did not remain in bed. After this period the ovaries could not be felt with the patient lying on her back. I continued the galvanic current for three weeks—applying it on alternate days after the last menstrual epoch. At this time, September 28, she went to her home in

Virginia. At her last visit to me I carefully examined her pelvic organs. The uterus I found in a better position than at first and, I think, a little larger. The whole pelvic viscera had lost its unusual tenderness. She stated she had gained in weight 6 lbs. I have not heard from her since she left the city, but think she would return if she was not feeling well.

Case 6.—K. S., æt. 24, white, single, came to me June 15 last, suffering with almost constant pain in lower abdomen, that gets worse after walking even a short distance. Menses profuse and painful, occurring irregularly, although about every three weeks. She cannot go up and down stairs without considerable pain, and that interferes materially with the proper performance of her duties as housekeeper in a large boarding-house. She confessed having had an abortion performed in June, 1886, after having missed two menstrual periods, and did not get along well afterward, although she did not consult a physician. An examination revealed a dense vaginal roof, holding quite firmly an enlarged, congested and tender uterus; considerable catarrhal discharge was oozing from the eroded cervical canal. A solution of alum in glycerine was applied to the canal and the galvanic current was passed through the inflammatory deposit. A small pledget of dry wool containing some powdered borax was laid against the external os uteri. The discharge from the canal ceased about the middle of July. The galvanic current was applied thirty-six times, the last application being made October 12, when the uterus was movable, reduced in size to about normal, and the cellular tissue about it showed no abnormal deposit. She was feeling very well and had passed the last two menstrual periods four weeks apart, without pain or undue quantity of flow. She was working every day.

Case 7.—Mrs. B., white, æt. 22 years; she is a tall, thin blonde and has been married six months. She came under my care October 4 last. She had generally had a great deal of pain at the menstrual period, but it has been worse since the date of her marriage. The first menstrual epoch after her marriage was two weeks late, and then appeared only after her taking medicine upon the supposition that she was pregnant. She did not desire children and believes she prevented it in this instance. She was confined to bed afterwards with pain so severe that, as she says, she had to take large doses of paregoric to live. She has felt badly ever since, suffering with extreme tenderness in lower abdomen and pain in back. Her last menstrual period ceased one week ago.

At her first visit she appeared weak, pale and nervous. The conjunctivæ were pale, and she walked slowly and carefully with a slight limping on the left side. She complained of frequent and painful micturition, loss of appetite with frequent nausea, constipation and night sweats.

She thought she had malaria, as she was having a chill every day.

October 5 I examined her and found the vagina short and its walls deeply congested and tender. The uterus, retroflexed and retroverted, was quite firmly held in that position by a thick cellutic deposit to the left and behind it. The eroded cervix uteri was covered by a thick muco-purulent discharge. Applied the galvanic current three times a week. October 10, she felt much better. I added faradization of the spinal cord as a tonic.

This treatment continued until October 31, when patient stated she felt real well and had gained 6 lbs. She has no trouble with stomach, bowels or bladder. The uterus is movable but enlarged, very little inflammatory thickening to roof now felt. Uterus easily pushed forward but no discharge from cervical canal; appetite good, no nausea.

The positive pole was applied after this, each time, to the interior of the uterus until the 12th of November. On the 20th she returned to state that she felt perfectly well, and had menstruated four days since her last visit; did not feel uncomfortable during it and is now doing her own housework. She has no limping and has no trouble from walking. I found the uterus slightly retroflexed and its cavity of normal length.

Case 8.—Mrs. S., white, æt. 37 years; has had seven children followed by an induced abortion at two months two years ago. She was very ill after that and has never recovered from it. She is almost an invalid, having constant dull pains through pelvis that become lancinating after much exertion, requiring her to remain in bed. Menses profuse, and agonizing, lasting from five to ten days; complaints of neuralgic headaches, loss of appetite, constipation, and cutting pains when voiding urine. An examination revealed the uterus to be large, hard, and in normal position, but surrounded by a thickened vaginal roof. Any movement of uterus causes considerable pain and prostration. The galvanic current was applied as in the other cases and the nervousness following it was marked—so much so that the application was not extended beyond ten minutes. This occurred July 19 last; after she had rested about one-half hour, small pledgets of wool were applied against vaginal roof around the cervix. She did not return until August 1, at which time she claimed to feel better and that her bowels had been regular without medicines since her last visit. She was anxious to have the electric current re-applied, as some friend had had a "modern miracle" performed on her in New York by means of this agent. I did not like to repeat the experiment of two weeks ago, but as the patient was anxious to have it tried again I repeated it. This time the application was barely perceptible to patient, yet I had to discontinue it after about six

minutes on account of faintness and loss of motion in the lower extremities; her face was very pale and the pulse alarmingly weak. My faradic battery was convenient, and I applied the interrupted current along the spine for a few minutes. It was about an hour before she could walk. I treated this patient until the 2d of October, but did not again employ galvanism on her.

Case 9.—Mrs. A., 42 years old, consulted me July 2 last, regarding some pelvic trouble. She had had two children and a miscarriage at three months three years ago. Her trouble dated from the miscarriage. She suffers with pain in back and bearing down, poor appetite and nervousness. Menses profuse but regular, requiring her to remain in bed four of the six days every month. Has been under the care of a few specialists for a year. I found the vagina large and its walls relaxed—uterus enlarged, low and retroverted. It was almost immovable, very tender to touch, and seems to be imbedded into the thickened vaginal roof.

Galvanism three times a week for thirty minutes, each application being followed by a gradual pressure against the lower side of the fundus uteri by woolen tamponades. She expressed relief just after the first treatment. This method of treatment was pursued until the 9th of October, when the condition seemed normal. I made twenty-six applications of the galvanic current to this patient during the course of treatment.

I do not think much improvement occurred in case 3 during treatment by galvanism. She felt very well, but this was, I think, not due to improvement in the condition of the pelvic organs. Many women suffer a great deal from conditions about the same as this woman has, and I think she will sooner or later have a recurrence of pelvic pain and sensitiveness.

The result in case 5 was very pleasing to me, as I am very glad to save a woman her organs of reproduction whenever it is possible to do so.

If electricity is of much value in this class of cases, I think it has a great field in the future, and should be thoroughly tried before the ovaries and tubes are subjected to the knife.

I do not think much good will come from the use of electricity in large pelvic abscesses or in tumors of a cystic or malignant nature. But I think nearly all other diseases of the female pelvic viscera are amenable to its restorative influence. Even small abscesses and small cysts of these structures are, I believe, curable by the judicious application of this remedy. In many of the cases that have been reported as cures of ectopic gestation by electricity, the condition of the patient's pelvic organs previous to the discovery of the so-called pregnancy had not been known. The diagnosis in them was faulty, but the treatment perfectly satisfactory. It is not unfair to

assume that some of these cysts were not pregnant cysts, but arose in some other manner. Certainly no failure, even in quite inexperienced hands, of the electric current in such cases has ever, to my knowledge, been published.

1314 I St.

THE BACILLUS OF KOCH, AND ITS PATHOLOGICAL INFLUENCE.

Read before the Chicago Medical Society, February 18, 1889.

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It has taken practically over twenty-two years to develop the exact pathology of tuberculosis up to its present degree of completion. Since 1865, when Villemin proclaimed that by vaccination with tuberculous matter, an identical process like that of human tuberculosis could be brought forth in some of the lower animals, the contagious and infectious character of tuberculosis was partly believed or assumed by many. This, however, does not eclipse in the least the brilliancy of Robert Koch's discovery of the specific cause of tuberculosis, nor does it alter the fact that this same discovery is unquestionably the most significant advance made in pathological investigation. Before Koch's memorable communication to the Berlin Physiological Society, the "cheese infection theory," as explained by Buhl, and the weakly "diathesis theory," strove for supremacy as the disguise for real ignorance as to the true cause of the tubercular process.

The student who desires a plain and truthful statement of the condition of our knowledge of tuberculosis before Koch's investigations can do no better than read Klein's paper in the *Practitioner*, for August, 1881. The results of Koch's investigations have been confirmed by every investigator, great or small. The result of this knowledge is used in our every day practice as data upon which we base diagnosis and treatment. Every doubt is silenced as to the specific character of the microorganism named by Koch the bacillus tuberculosis.

Morphology.—The bacillus tuberculosis consists of a cell wall inclosing a protoplasmic body called mycoprotein. It belongs to the smallest and finest bacillary forms known to us. Only the bacillus of mice septicæmia surpasses it in fineness. The length of the single rod ranges from 1.5 to 3.5 μ .—equal to .25 to .75 the diameter of the red blood corpuscle, and there width is from one-fifth to one-sixth of their length. The most of them are equal to half the diameter of a colored blood corpuscle. The ends of these rods appear to be rounded. The bacilli arising from an artificial culture fluid are in general shorter and finer than those growing in the animal organism. The largest forms are found in the sputum of phthisis. The investigations of Raymond and Arthaud,

recently published in a monograph, would prove that the length of the bacillus tuberculosis is in direct ratio to the acuteness of the tubercular process, and it is my belief that the fineness of the bacilli and their straightness seem to bear the same relation. That is to say, the long forms are found in acute miliary tubercles, the shorter in those of a longer course, while in the very chronic the great majority of the microorganisms appear as mere cocci and the rods are thick and crooked. These facts are of very practical importance. In the interior of recent tubercular foci and in young artificial cultures the rods are straight. In the older artificial cultures and in phthisical sputum we meet, besides the nearly straight forms, a majority of slightly bent or curved forms. In still older cultures of low vitality, or in cultures that have been cut off from the air, we find the thick curved form still more numerous, and that the straight forms have nearly or quite disappeared. May we not, therefore, make the following query: Is not the thickening and bending but steps in the process of degeneration of the bacillus tuberculosis (*i. e.*, lessening virulence), and, if so, may we not use this fact as an aid in prognosis, and as a gauge, in given cases, as to the possible effect of therapeutics? They are all non-motil.

Artificial Cultivation.—Koch found that from his artificial nourishing grounds inoculated with tubercular matter, he could produce a growth of peculiar characteristics, consisting of the bacillus tuberculosis. They form dry, glossless, compact whitish scales, about the size of a poppy seed, which lie loosely on the upper surface of the desiccated blood serum. They never grow into the same, nor do they ever liquefy it. They do not grow into even the liquid expressed from the blood serum, but always upon its surface. All this is characteristic. No such appearance is presented by any other known bacterium. Their extraordinary slow growth is another characteristic. Not until after the eleventh day are they visible to the naked eye. Two weeks later they attain their maximum growth.

The culture of the bacillus is a most difficult task (of which, more anon), but when a pure culture is produced we may go on *ad infinitum*. If the serum, or the water expressed in dessication of the serum, grows dim, it is a certain sign that the culture is contaminated.

Examined under a low power, say 30–40 diam., these little elevations are found to consist of dainty spindle or "S" shaped colonies. Under a higher power, and after staining by Ehrlich's method, we find these colonies to consist of bacilli arranged parallel to each other, with their long axis corresponding to that of the colonies.

The substances used as media in which to cultivate the bacillus tuberculosis are not very numerous. Dessicated blood serum stands at the head of the list, for many reasons. Agar-agar is fair,

but we do not get the characteristic growths from it. Next in order of fitness we may mention meat-infusion, peptone-agar, liquid blood serum, and bouillon. In the latter, when placed in Erlenmeyer's bulbs, and vessels of like sort, the bacilli settle to the bottom, forming a delicate layer, resembling sand. Nocard and Roux found that the artificial growth of the bacillus tuberculosis is favored in a remarkable manner by the addition of glycerine to the culture medium. According to these experimenters 6 to 8 per cent. should be added to the serum, agar-agar, or gelatine. The addition of 20 per cent. of neutral peptone to the glycerine before its addition to the serum, and 50 per cent. of peptone to equal parts of bouillon, will be advantageous. Under these conditions the bacilli are more fertile and larger. According to Koch's method the bacillus tuberculosis grows only between 30–41 degrees, Cent. The raising or lowering of this temperature, even by so much as a fraction of a degree will hinder their development, so sensitive are they to deviations in temperature. With this fact in mind it is difficult to conceive of their undergoing any phase in their life history outside the human body. We may readily believe, too, that an accurately working thermostat is absolutely necessary. Equally important is the act of implantation. Besides the care required to prevent accidental contamination it is necessary that the inoculation material be placed on the surfaces of the serum in the daintiest and most cautious manner, so that after the inoculation the point of inoculation be almost invisible. Another item of success is the moist, succulent condition of the serum. When the latter becomes dry by evaporation, whether before inoculation, or during the time it is in the incubator the cultures fail regularly. To obviate this rubber caps are fitted over the cotton at the end of the tubes. Probably the salubrity of the glycerine-containing mediæ is due to some extent to the better retention of a moist condition in the upper strata from the presence of the glycerine.

Spore-Formation.—The phenomenon of spore-formation is still *sub judice*. A brief review of the various experiments and opinions would not be amiss here. We may take as the ripe bacilli those that present when stained a homogeneous appearance, without points of special tinctorial susceptibility. In others stained under precisely similar conditions, we find unstained spots that give them a beaded appearance. These unstained spots were regarded by Koch as endogenous spores. This opinion is still probable but not surely accepted. No one has as yet seen the germination of bacilli from these spots, nor has any one as yet been able to stain them. This, however, does not disprove Koch's opinion; on the contrary, in proof of it stands the great similarity of the endogenous spore formation of other bacteria, and also the great tenacity to life of the bacillus tuberculosis, the latter

being, indeed, especially characteristic of organisms of endogenous spore formation. Against this, again, mitigates Volsch's experiments, who, following the line marked out by Baumgarten, concluded that the bacillus tuberculosis has equal tenacity with or without these colorless spots.

We may ask, therefore, whether these unstained spots are really spores, or "vascular degeneration" (Baumgarten), such, for instance, as we see in the typhus bacillus; further, we find accompanying the bacillus tuberculosis, whether in the animal body or in pure cultivation on blood serum, round bodies which are comparatively quite readily stained and these have been regarded as possibly spores. Against this we have the following: If the *unstained* bacillus be examined in a weakly refracting media, we find spots of greater brightness within the body of the bacillus, and in the bacilli found in tubercular sputum, which are the very ones that show a great resistance to destructive agencies, are found the greatest number of glistening spots. It is, however, our opinion that the glistening spots are not spores, but vacuoles covered by part or a whole of the limiting membrane; that they are a portion of a process of degeneration; *i. e.*, occur at the time when the bacillus is threatened with destruction; but that they are connected in some way with spore formation; that they probably are the matrices out of which the spores have escaped. In support of this opinion, we observe:

1st. Spore formation occurs most excessively under conditions least favorable to growth (see experiments of Raymond and Arthaud in "*Études sur la Tuberculose*," Part I). 2d. Under the same conditions the occurrence of stained round bodies in the surrounding media with same color reaction as the bacillus, and an equally large number of unstained spots in the bodies of the bacilli. 3d. That these same round bodies are very often suspiciously close to the unstained spots in the body of the bacillus. 4th. That under certain unfavorable conditions the bacillus tuberculosis metamorphose into a coccus form, which I believe to be simply sporulation. And right here we may draw a practical conclusion. Numerous opponents to the bacillary origin of tubercular processes have held up the fact that the bacillus tuberculosis is not always found in so-called tubercular pus—quite justly, too. But this is because only spores are present, which, although less readily stained, will develop into the characteristic bacillary form under the proper conditions.

Staining Reaction.—The bacillus of Koch has tinctorial qualities that differentiate it from all other known bacilli excepting the bacillus lepre. It was Koch's original opinion that the bacillus tuberculosis alone could react to the alcoholic aniline solutions. This was found to be erroneous. The distinctive feature is their resistance to de-

colorizing agents, especially the mineral acids. We can best understand this phenomena by presupposing with Ehrlich that the bacillus tuberculosis possesses a tough capsule which, while resisting to some extent the entrance of the coloring matter, is impregnable to the decolorizing agent, thus distinguishing it from all known varieties of bacilla, with the exception above mentioned.

Agents Unfavorable and Destructive to Growth.

—The bacillus tuberculosis is quite able to endure the influence of any or all of the digestive secretions of the animal organism, and especially those of the stomach, as was proven by Falk in his artificial cultures and by the positive results obtained by Schell and Fischer in their feeding experiments. The tuberculosis bacillus has a very great resistance comparatively to the action of all disinfectants. Thus, the bacillus tuberculosis was destroyed only after twenty hours' contact with a 3 per cent. carbolic acid solution. This latter substance is therefore not to be relied upon, especially in the disinfection of tubercular sputum, in solutions of less than 5 to 10 per cent. Another fact of some importance is that corrosive sublimate is not applicable in disinfection of sputum; not because of a resistance on the part of the bacillus tuberculosis to this most powerful germicide, but because it *curd*s the sputum, thus materially hindering the complete mixture of the solution with all parts of the sputum. In pulverized sputum the bacilli were destroyed in twenty hours by 1:5,000 H_2Cl_2 . Baumgarten showed that a solution of 1:1,000 destroyed the spores in a very short time. Schell and Fischer found that besides carbolic acid and corrosive sublimate, absolute alcohol, sat. sol., salicylic acid, acetic acid, liq. ammoniæ caustica, sat. sol. of aniline in water, and the vapor of aniline oils generated at the temperature of the room would kill the bacillus after twenty hours. Practically we have no destructive agent that can be compared to heat, and especially moist heat, and this should be employed whenever possible.

To conclude this section we will discuss the question whether iodoform has any influence upon the growth of the tuberculosis bacillus or not. From the experiments of Baumgarten, Kunz, and the latest, of Rosing, we must doubt its power. The observations and deductions of Bruns and Nauwerck have slight weight as against these latter experiments. These surgeons claim that by the injection of iodoform into tubercular abscesses they were not only able to terminate the abscess, but to actually reduce the number of bacilli in the abscess walls. First, we must know that the number of bacilli in tubercular abscess walls are constantly changing. And, further, supposing that the number were reduced, we cannot say positively that this result was due to iodoform, as Bruns injected not pure iodoform, but a solution of it in alcohol and glycerine. We know positively that the former agent is a direct

poison to the bacillus tuberculosis. We know, too, that it is highly wrong and inconsistent to add glycerine to anything intended to hinder the growth of the tuberculosis bacillus. Further, we must consider, according to the researches of Baumgarten in the healing of tubercular abscesses, that the bacilli in them possess a relatively minor energy, an insignificant malignity; that the colonies are comparatively small, and that these colonies are few in number. The majority of these are in a good way to die off of their own accord, and it only requires the removal of the detritus, to prevent auto-inoculation, to bring about a cure.

Pathology.—The greater portion of the time allotted to the reading of this paper has already expired, and it seems like a pathological sacrilege to attempt a presentation of so great a subject in so short a time as remains. However, I will deal with it as best I can, though, as you must know, only cursorily.

The bacillus tuberculosis may gain an entrance into the human body in one of three ways: first, by respiration; second, by alimentation; and third, by inoculation. The subsequent pathological varieties will depend: 1, upon the conditions of the tissues of the individual; 2, the place of invasion; and 3, the vitality or degree of malignity of the bacilli invading.

1. The individual. There can be no doubt that there exists in some people a susceptibility to and in others an immunity from the invasion of the bacillus tuberculosis. The dog as a class enjoys an enviable immunity, the rabbit a susceptibility. This susceptibility may be inherited or acquired.

2. The place of invasion. It is a remarkable fact that no macroscopic changes occur in the great majority of cases at the place of primary invasion except in cases of inoculation. This is due, most likely, to the minor virulent condition of the bacilli. As was pointed out under the head of "Conditions Favorable and Unfavorable to the Development of the Bacillus Tuberculosis," it is extremely improbable that they can develop outside the animal body, on account of their exquisite sensitiveness to temperature change, but disseminate themselves outside the body mainly as spores. In the majority of cases the invading bacilli are in their spore stage and develop into ripe bacilli after they have secured a suitable nidus in the body. Again, the normal secretion, at least of the alimentary tract, while not destructive, has a deleterious effect upon their virulence. An entrance gained, however, they are taken by the lymphatics either to the thoracic duct, and there poured into the blood, or they gain lodgment in the lymphatic system before this takes place and multiply, and the tubercular process begins.

Whether they develop at the point of primary invasion, which is rare, or gain entrance into the

lymphatic or circulatory system before development, the results are the same—a more or less acute or chronic tubercular process. To be sure, the pathology of the resulting tubercular process will differ according to the mode of infection. Thus, in hæmatogenous invasion of the lung or an invasion by bacilli circulating in the blood, we have as a result the small or miliary tubercular process scattered throughout the lung parenchyma, one alveolus at a time becoming involved. This is easy to understand. When, however, a number of fully developed and virile bacilli are inhaled and they attack the epithelium of the whole lobule or lobules at once, the result is the cheesy lobular pneumonia. This process may be brought about in rabbits by intra-tracheal injection of pure culture bacilli. The identity of this process with a true tubercular process is not, I believe, sufficiently recognized in this country. The rapidity with which the bacilli are taken up by the lymphatics is astonishing. Three days after the inoculation of the anterior chamber of the eye of a rabbit they have already forced themselves into the auricular lymph glands. And in spite of the thorough removal of the affected eye at this early date the animal died of general tuberculosis.

When the lungs and kidneys are examined twenty-four or forty-eight hours after an intravenous injection of bacilli, it is only by the most thorough search that here and there a tubercle bacillus can be found. Yet, it is proven that fourteen days or three weeks later countless numbers may be found in the above-named organs, proving that a number are retained by these organs, and that they offer a favorable ground for their growth. It is wondered at why, in lungs and kidneys, in spite of a relatively small retention of bacilli, larger and more numerous foci are developed than in spleen, liver and bone. We may presume that the different organs do not furnish an equally good nourishing ground for the bacilli, that the lungs and kidneys furnish a more salubrious resting place than the bone and liver, a presumption supported by many analogies.

The histogenesis of tuberculosis cannot be dealt with here. We will content ourselves with studying that pathognomonic iota wrought by the bacillus tuberculosis—the miliary tubercle.

It is impossible to give a definite size to the tubercle. In one case it is invisible to the naked eye, in another it may be as large as a pea. When visible to the naked eye they appear as small round, more or less opaque, pearly-white nodules. When occurring in an organ that tends to retract when cut the tubercle stands out in bold relief.

Histologically the tubercle consists of a giant cell around which are arranged the epithelioid cells, smaller than the giant cells, around which in turn are grouped the lymphoid cells. The whole is most frequently held together by a reti-

culum. The absence of blood-vessels is characteristic of the tubercle. The lymphoid bodies are the first to appear at the point of attack of the bacillus tuberculosis. Their nucleus occupies nearly all their body, leaving only a small margin of protoplasm. On the sixth day after the inoculation of animals the epithelioid cells appear—the first distinctive step in the tubercular process. They appear at the point where the tuberculous bacilli are most numerous. Lastly the giant cells are formed, having their nuclei, ten to a hundred, *arranged in the periphery of the cell*. The epithelioid cells originate from the fixed epithelium and endothelium of the tissue involved. The giant cells are caused, most likely, by an inhibition of the normal cell divisions, the cell increasing in size notwithstanding. Between the cells and within them are grouped the bacilli. Twenty may be counted within a single section of a giant cell. The trabeculum is derived from the preëxisting connective tissue elements; changed, of course, by the new order of things. The roundness of the tubercle may be explained thus: In the beginning of the tubercle formation the cell-growth is greater at the centre of the bacilli colony than at the periphery and, as there is a pressure exerted upon the centre by the periphery, a rounding up, as it were, results.

Regarding the uncertainty of the presence of the giant cells in tubercles we would say that their absence is comparatively very rare. If microorganisms are not necessary in every case to the development of giant cells, we know that the bacillus tuberculosis possesses this capability to a supreme degree. Yet, like many other things in nature, they may fail.

The tubercles may undergo: 1, reformation; 2, calcification; 3, caseation; 4, liquefaction; 5, supuration; 6, ulceration. Of these we will only speak of coagulative necrosis and suppuration. We cannot regard the caseous process (coagulative necrosis), as it occurs in the tubercle, in the sense used by Weigert in describing those processes taking place by reason of simple arrested circulation or nutrition; as, for instance, in a non-infected infarct. We must look to the bacillus for a part of the change wrought. True, lack of nutrition has something to do with it, but the digestive power of the bacillus has more. And it may be thus looked upon as characteristic of the tubercular process, that no formation *so small in size* as a tubercle undergoes such a change.

Suppuration.—The bacillus tuberculosis never forms pus. Only when the so-called tubercular granulation tissue has become infected with the staphylococcus or streptococcus can true pus be formed. The contents of a purely tuberculous abscess contains only a few round cells, but an amorphous shreddy material, the result of the digestive power of the ptomaines from the bacillus tuberculosis upon the granulation tissue.

THE ETIOLOGY, PATHOLOGY AND TREATMENT OF ACUTE CATARRH OF THE UPPER AIR PASSAGES.

Read before the American Rhinological Association, September 12, 1888.

BY J. G. CARPENTER, M.D.,
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The etiology of acute catarrh is either local or exciting, predisposing or constitutional: the use of tobacco, occupations attended with much dust, smoke, irritating gases, excessive moisture or dryness of the atmosphere, sudden changes of atmospheric temperature, as from a dry warm to damp or damp and cold weather, or from a warm room to the cold air without being sufficiently protected with wraps, getting the feet wet, standing or sitting for some time on a cold surface. A very pernicious habit is wetting the head, which is practiced daily by young ladies, and also by mothers and nurses, who wet the hair and scalp of children one or more times daily and thus develop acute or subacute catarrh, and the child is seldom over one attack before another begins; finally chronic catarrh of the upper air passages is established. Exposure to the night air without extra wraps is one of the most frequent causes of acute catarrh. Wearing damp clothes, changing beds and sleeping in rooms without fire (when not accustomed to the latter), exposure to currents of air, insufficient clothing, substituting light and thin goods for heavy and warm ones, changing boots for shoes or slippers, going without collar, cravat or cuffs, sitting up late at night and allowing the room to cool before retiring, facing the wind in traveling and not having the nose, mouth, throat and chest protected with extra wraps, removing the clothes and exposing the body in an almost nude state for half an hour or more before retiring, as many ladies do, are prevalent factors in the production of acute catarrh.

Mothers and nurses often develop acute inflammation of the upper air passages by getting up at night with children or patients in the cold air and not clothed properly; the body is not kept at the same temperature as when in bed, the consequence is that the integument is quickly chilled, its action suppressed, and through reflex irritation the mucous membrane of the upper air passages becomes congested or inflamed, as it is generally the weakest point, and most subject to irritation.

Too much clothing, as wearing sealskin sacques, chinchilla ulsters, fur collars and overshoes, on improper occasions as in pleasant weather, and not removing them on entering the house, church, theatre, or when making social calls, is equally as prone to develop acute catarrhal inflammation as insufficient clothing and undue exposure to inclement weather. The body should be clothed so as not to cause perspiration nor chilling.¹

¹ It is said that sealskin sacques have in a given time caused more deaths than small-pox in New York (Bosworth).

Two barbarous customs are: first, the kind of hats or bonnets worn by women, which give no protection to the head; second, the manner in which boys and girls are dressed by the affluent, viz.: overclothing the trunk and head and allowing the limbs to be in an almost nude state, especially the knees, legs and feet, even in the coldest weather.

One of the most, if not the most prolific causes of catarrhal inflammation of the upper air passages is the treatment given infants immediately after birth. Generally the first thing that happens to the babe after the establishment of respiration is a cold in the head; or, as the nurse would say, "the little thing has the snuffles." It should be the exception and not the rule for infants to acquire a rhinitis shortly after birth from unnecessary exposure, chilling and sudden radiation of heat and evaporation of the body. It is quite common for the specialist to hear, "Doctor, my child has had a cold since its birth." The infant, before nor after severing the cord, should not be exposed, but wrapped in flannel of several layers in thickness. If very feeble, the cord should not be severed until pulsation has ceased, then artificial heat applied, the skin anointed with vaseline and the clothes quickly adjusted, an extra wrap applied and the babe placed at the mother's breast. If necessary, in the fall, winter or spring, artificial heat should be used. At the time of birth the temperature of the room, for the benefit of the babe, should range from 85° to 100° F. A sudden change of temperature from 20° to 60° F., from hot to cold, would injuriously affect a robust adult, nude or unprotected; how much greater must be the change and shock in the newly born babe, born and washed and dressed in a cold room and unnecessarily exposed. Many affections of the nose, throat, ears, eyes, trachea and bronchi could be avoided in children subsequent to birth if the accoucheur would use the proper precautions, and give the appropriate directions.

Constitutional causes of acute catarrh are rheumatism, malaria, measles, scarlatina, small-pox, diphtheria, uterine affections, especially endocervical metritis, neurasthenia. Excessive fatigue, either mental or physical, by impairing the general health, places the system in a condition favorable to acquiring catarrh of the upper air passages.

Pathology of Acute Catarrh.—The mucous membrane, the blood-vessels, nerves, lymphatics of the rhino-pharyngeal cavities, supply or communicate with those of the eye, frontal, ethmoid and sphenoidal sinuses, the antrum, maxillars, the middle ear, lower pharynx, the tonsils, buccal cavity, larynx, trachea, bronchi and lungs; consequently an irritation or inflammation of the superior respiratory tract is easily extended to these parts by reflex action or continuity of tissue.

The force of irritation and inflammation in acute catarrh of the upper air passages may be

confined to the nares *per se*, the naso-pharyngeal chambers, or to the latter and the ethmoidal, sphenoidal and frontal sinuses and eyes, middle ears and antrum, or to the pharyngo-laryngeal cavities and trachea, and as the inflammation of one organ or region is of greater intensity and duration and predominates over the others, it is designated by that name, as rhinitis, rhino-pharyngitis, laryngitis, etc. Acute and subacute catarrh may end in resolution or in the chronic. When a chronic naso-pharyngitis is once established, it is quite easy to develop an otitis media, a conjunctivitis, a laryngitis, or rhinitis frontalis or ethmoiditis, sphenoiditis, or a tonsillitis. (The writer believes that catarrh of the upper air passages is the predisposing cause of phthisis in many cases—yes, in the majority of cases, it might be stated without exaggeration. Feebleness of constitution is inherited from consumptive parents, but consumption is not, it is acquired. "The discharge or secretion of catarrhal inflammation and the lymph channels afford the most favorable soil and habitat for the growth and reproduction of the bacillus tuberculosis," and when the catarrhal secretions contain bacilli they are capable of affecting healthy persons when dried, pulverized, and blown by the air and respired; hence, to avoid phthisis pulmonalis, keep the constitution normal, the upper respiratory passages healthy, and prevent a suitable soil for the development and reproduction of the bacillus tuberculosis. In every case of phthisis pulmonalis the writer has observed, rhino-pharyngeal catarrh, in one or more of its stages, was present.)

For convenience and perspicuity acute catarrh may be divided into three stages. 1, the dry or congestive; 2, the moist or liquefactive; 3, the muco-purulent.

In the first stage there is an irritation of the mucous lining directly or reflexly; following this, there is dilatation of the blood-vessels with hyperæmia, redness, heat, tumefaction, and pain from pressure on the terminal ends of the nerves. Rhinoscopic examination shows a red or dark red, dry, congested, swollen appearance of the mucous lining, the blood-vessels are distended, enlarged, elongated and tortuous, and the lining often quite cedematous in those parts where it is loosely attached, or where it lies upon loose areolar tissue beneath.

Second Stage.—In addition to the first stage there are the following abnormal conditions, transudation of serum, diapodeses of the white corpuscles, infiltration of the connective tissue, cell proliferation, organization of lymph. The walls of the mucous follicles are swollen, they are distended, abnormally active, and throw out an abundance of mucus upon the surface of the mucous membrane. The mucous and submucous areolar tissue are infiltrated, thickened and cedematous. On rhinoscopic examination the dry, red,

glazed appearance has given way to a moist, juicy state of the surface: irregular elevations are seen corresponding to the distended crypts. There may also be infiltration and œdema of the turbinated processes and septum, causing nasal occlusion, enlargement and tenderness of the anterior cervical and maxillary glands, uvula, palate and tonsils.

The third stage is a continuation of the second, and is diagnosticated by a denudation or an erosion of the epithelial layer, leaving a raw surface, especially where there is much desquamation; supplementing this is a muco-purulent or a purulent secretion. Should resolution take place, the inflammatory products are absorbed, the blood-vessels contract to their normal size, excessive secretion is arrested, and the mucous surface presents its former healthy appearance.

On microscopic examination the mucous secretion contains tessellated and squamous epithelium, also columnar ciliated epithelium. The secretion from the upper pharynx is columnar ciliated epithelium; from the lower squamous epithelium; the epithelium of larynx below the superior vocal cords is columnar ciliated, above this point squamous; that of the trachea is also columnar ciliated. There are in addition, in the second state, mucus, white and red blood corpuscles, and pus corpuscles in the third stage.

Should acute catarrh not end in resolution, but in the chronic, there are developed in the mucous and submucous or connective tissue new layers of connective tissue elements. In the epithelial, there is an increased activity of cell growth by which it becomes abnormally thickened and hypertrophied, the glandular tissue is also involved, but to a limited extent. In the nasal cavities, the thickening is a regular and uniform hypertrophy, but appears irregular and nodular on the mucous surface. The hypertrophy is developed to its greatest extent in the turbinated bones; the inferior more than the middle, the latter more than the superior. The meatuses and septum are also affected by the infiltration.

Atrophic catarrh usually follows the hypertrophic and is generally late in developing, but may occur early, from recurrence of the acute or sub-acute catarrh, by which a deposition of lymph into the submucous connective tissue around the glands and follicles results, causing pressure on their orifices preventing the escape of mucus. After this pressure has existed for some time atrophy of the glandular and follicular tissue takes place.

Boston, Mass., Feb. 14, 1888, with symptoms of ulcerative colitis. He had had diarrhœa for two years, the discharges being watery and occasionally mixed with mucus and blood. There was tenderness on pressure over the entire course of the colon, notably the ascending portion. Examination of the rectum with the speculum gave a negative result. Patient's appetite was poor and his appearance anæmic. Ordered opii pulv. and bismuth subnit., milk diet, and rest in bed. Under this treatment there was some improvement of the intestinal symptoms.

April 4th. Had a chill, followed by fever and sweating. Had been complaining of pain in right hypochondrium for several days previously. From this time patient had irregular chills and sweats, with increased temperature. Tenderness developed over the hepatic region, and the area of hepatic dulness was found to be abnormal in extent, reaching from just below the nipple to a point 3 centimetres below the border of the ribs. From the symptoms and history a probable diagnosis of abscess of the liver was made, and on April 11th the aspirator was introduced in the eighth intercostal space and 100 cc. of viscid, blood-stained pus evacuated.

April 15th. 300 cc. of pus removed by the aspirator; pain relieved by the operation and patient slept better.

April 20th. 500 cc. of pus removed by the aspirator. As the abscess was evidently enlarging, it was determined to resort to a more radical operation.

On April 22d an incision was made in the eighth intercostal space, between the axillary and mammillary lines, and extending down to the surface of the liver. The chest cavity was obliterated at this point, owing to adhesion of the costal and diaphragmatic pleura. As no fluctuation could be detected, the incision was continued into the tissue of the gland, in the direction of the previous punctures, and the abscess cavity entered about 3 centimetres below the surface of the organ. The opening was enlarged by the forceps and rather more than 1000 cc. of reddish, grumous pus evacuated. The cavity was irrigated with 1:20,000 warm corrosive sublimate solution, a large drainage tube introduced, a dressing of absorbent cotton, wrung out of sublimate solution, applied and the whole covered by a large pad of oakum secured by a bandage. Cocaine was used as a local anæsthetic.

Next morning, April 23d, the dressings were found saturated with pus and bile, and patient was decidedly jaundiced. The abscess cavity was irrigated with solution of bichloride of mercury, 1:20,000, but this caused so much pain and symptoms of collapse that it was never repeated. For the following notes I am indebted to Assistant-Surgeon G. T. Vaughan, M. H. S., who at this time took charge of the case.

ABSCESS OF LIVER: RECOVERY.

BY L. L. WILLIAMS, M.D.,

PASSED ASSISTANT-SURGEON, U. S. MARINE-HOSPITAL SERVICE.

C. B., seaman, aged 36 years, native of Maine, was admitted to the U. S. Marine Hospital, at

"The abscess continued to discharge freely through the drainage tube, gradually decreasing in quantity, till the 12th of May. On this day, as there had been only a small amount of serum on the dressing for two or three days, the tube was removed.

"Patient's condition steadily improved from opening of the abscess. Temperature 36.8°C. , in morning, 37°C. , in evening—once only reaching 38°C.

"Discharged, recovered and seaworthy, June 4th, 1888."

CLINICAL AND EXPERIMENTAL RESEARCHES UPON THE PATHOGENESIS OF FEVER AND THE PATHOGENIC ACTION OF SOLUBLE FERMENTS.¹

A Paper presented before the Académie de Médecine of Paris.

BY M. ROUSSY.

[Translated from *La Semaine Médicale* by ARCHIBALD CHURCH, M.D., of Chicago.]

In bringing forward to-day the second part of the investigations I have undertaken in regard to the pathogenesis of fever, I will recall that M. Hayem three weeks ago presented to the Academy in my name a new chemical substance, pyretogenine, isolated from a microorganism and possessing the singular property, in minute doses, of determining intense and typical attacks of fever.

In the paper describing at length the physiological effects produced by this substance, I announced that I had also experimented with other substances which I proposed to range under the denomination of calorigenes or thermogenes, because they only determined a feeble elevation of temperature without producing the other perturbations characteristic of fever. Further, I announced the existence of frigorigenes, chemical substances of microbial origin, among which was one more energetic than the others that I designated frigorigenine.

I gave in my first paper neither the name of the microorganism which had furnished the pyretogenine nor the process which I had employed in its extraction, but promised to make both known in a subsequent communication, which to-day I submit in two parts. In the first I make known my chemical and experimental investigations of the pathogenesis of fever, and in the second I bring forward a general theory as to the nature and the physiological and pathogenic rôles of diastases or soluble ferments.

First as to the clinical observations. I noted intense fever occurring in adults and children after overeating, after the ingestion of stale beer, of

tainted meat, of stagnant water containing dead leaves, hay or flax. The abrupt appearance of this fever and its more or less rapid and unexpected subsidence led me to the hypothesis that the cause was the presence in the organism rather of soluble substances than of microorganisms.

With the purpose of verifying this hypothesis I have experimented on rabbits and dogs with substances analogous to those which seemed to me to have produced the fever observed in man. These investigations, extending over more than three years and embracing more than 400 varied experiments, have led me to formulate the following conclusions:

1. Subcutaneous and intravenous injections of stale beer, of macerations of hay, of tainted meat, etc., always determine fever in dogs and rabbits.

2. This fever appears very soon after the injection and shortly attains a temperature of 42°C. In these cases the injection produces an infectious disease which is generally followed by death. The intensity and rapidity which characterize this fever lead me to think that it should be attributed more to the soluble chemical substances than to the mechanical action of the microorganisms which are contained in the injected liquids.

3. Intra-stomachal injections produce but little fever in rabbits and are without effect upon dogs, leading to the thought that the soluble chemical substances are modified or destroyed in the intestine or in the organs they must traverse to enter the system, and possibly in dogs may not be absorbed at all.

Second, as to the frigorigenes or algogenes of microbial origin. These chemical substances may be encountered in animal matter destroyed by fermentation. They are susceptible of extraction by ether, chloroform and alcohol.

The substance extracted by ether possesses the most energetic frigorigenic properties. It produces a temperature fall of 4°C. It seems to have a tendency to crystallize. It acts as a base in the presence of the ordinary reactive agents of alkaloids. For these reasons it seems proper to distinguish it by the special name of frigorigenine or algogenine.

The production of frigorigenic substances appears to be subject to particular conditions of animal fermentation by microbial action, for one does not encounter these products in all animal matters undergoing fermentation, or at least in all stages of that fermentation.

The existence of these substances being absolutely certain, they should be sought in the cultures of cholera bacillus and in patients presenting temperature below the normal.

In experimenting with the putrid liquids cited above I have been particularly struck, in many instances, by the pyretogenic power of stale beer. Examining more closely the composition of this liquid I found in it a large number of yeast cell-

¹This article takes up the very interesting subject of disease, and particularly fevers, being produced by the chemical products of bacteria rather than by the mechanical action of the bacteria themselves, and seems to point the way towards a more intimate knowledge of pathology.

ules. In using the stale beer I have then, in short, merely employed a maceration of yeast cellules. I was thus led very naturally to attribute the pyretogenic properties of the liquid to the yeast spores which it contained in such great abundance.

Such is the starting-point of all the experiments I have subsequently made with the soluble products of the yeast cellules, and which have given me such satisfactory results.

Third. The water used to wash the living spores of beer yeast possesses energetic pyretogenous properties which may not be attributed to the mechanical action of the microorganisms, and which are due to the soluble chemical substances held in solution. These substances are nearly entirely retained in the pores of the finest mineral filter, and filtration by means of such a filter is an undesirable proceeding in making a study of soluble substances. Solutions of chlorate of strychnia perfectly made lose their toxic properties by passing through a mineral filter, and accurate weighing shows that 70 per cent. of the strychnine remains in the filter. The same is true of curare. The best means of studying chemical substances in solution is to isolate them by chemical processes. The soluble chemical substances which impart the pyretogenic properties to the water which has been used to wash the cellules of yeast are the direct products of the microorganisms and constitute the results of their processes of secretion or excretion. These substances take on much more energetic pyretogenous properties when the spores are reduced in a neutral medium, such as distilled water, to a condition of autophagia. They may be extracted in sufficiently large quantity for separate study by treating a small quantity of sterilized distilled water containing several kilograms of spores with a large quantity of strong alcohol. Owing to their unequal solubility in water, alcohol, etc., they may be obtained separately and in a pure form. In this manner I have succeeded in isolating four substances, of which three are crystallized, and the fourth composed of fine homogeneous granules.

The most active of the substances elaborated by the yeast cellules, and which most influences the process of animal calorification, is the one presenting the granular form. Its pyretogenic energy is surprising. A few tenths of a milligram to the kilogram of animal weight rapidly produces in the dog an access of most intense and typical fever. This access of fever describes its evolution in nine or ten hours and in three phases, during the course of which all the functional troubles characterizing an access of paludal fever manifest themselves. By reason of its physiological potency, so powerful and so well defined; by reason also of its chemical properties, I think one could not do better than to designate this singular substance under the name of pyretogenine.

Among other chemical properties it has the power of breaking cane sugar into glucose and levulose. A minute quantity suffices to transform a relatively enormous amount of sugar. It acts, then, exactly as a diastase, and conducts itself toward reagents as a base.

I now come to the second part of my task, the general theory of the nature and the physiological and pathogenic rôles of the diastases or soluble ferments. Pyretogenine is, as we have seen, one of these soluble ferments which one invariably finds where cellules, without being destroyed, and whose action has hitherto been mysterious, seem to break up the organic molecules merely by their presence. Diastases appear to reduce organic material by chemical processes more or less analogous to those which take place in the reactions of sodium, potassium or baryta upon fats or upon albumen. Yet it is not absolutely known by virtue of what property these singular ferments act.

Now, in presence of the clearly toxic properties of pyretogenine, may one not suppose that the other diastases have similar properties, and that they reduce organic matter precisely because of this toxicity. This is a new and positive fact hitherto unknown to science, and seems to me to be great with consequences for general pathology. Its bearing cannot be mistaken by any one. To generalize: all spores, in short, all microorganisms, elaborate diastases or soluble ferments which they employ to attack and transform material either without or within the confines of their proper substances, and these ferments often have a most surprising chemical energy, liquefying the most resisting and apparently unattackable substances.

Three years ago nearly all microbiologists were occupied merely with the pathogenic rôle played by microbes considered in themselves the active elements. I would call attention particularly to the necessity of studying the pathogenic action of the chemical substances which are the results of their life-processes.

MEDICAL PROGRESS.

THE TREATMENT OF LOCOMOTOR ATAXY BY SUSPENSION.¹—Under the above title, Dr. A. de Watteville has translated and edited the paper in which Professor Charcot describes the method of treatment of locomotor ataxy, and other spinal diseases, at the Salpêtrière, of which some account was first given in our pages in the letters on "Medical Paris of To-day." So much interest has been shown by our readers in this subject, and so many inquiries have been received, that

¹ Translated from the French of Professor Charcot, and edited by A. de Watteville, M.A., M.D., B.Sc., Physician to the Electro-Therapeutical Department of St. Mary's Hospital. With 4 illustrations and notes. London: D. Stott, 370, Oxford Street.

we publish subjoined that part of Dr. de Watteville's pamphlet which relates to the practice of the methods of treatment and its details. He writes as follows :

As was to be expected, some persons have already endeavored to improve upon the method, such as, for instance, by advising the adjunction of plaster spinal supports that are, to say the least of them, entirely superfluous under the circumstances, at any rate in cases of true ataxy.

Professor Charcot has thought it advisable, therefore, to publish the following technical details, suggested by an experience acquired in the course of over 800 suspensions, practiced under the supervision of his chief assistant, in the cases of forty patients. For, though the operation is, in itself, very simple indeed, it yet requires a certain skill that is more easily acquired with the assistance of definite rules, than by the sole experience of entirely original experiments.

The apparatus used is that contrived by Sayre, of New York, for the application of plaster jackets used in cases of spinal deviation. Though pretty extensively known, we shall give a short description of the form of it used in Professor Charcot's *clinique*. A transverse piece of iron, about eighteen inches in length, is suspended by means of a central ring to the pulleys which are used to lift the patient from the ground. Each extremity of the bar ends in a hook, intended to support the ring, which carries the straps intended to give support under the armpits. Several notches on the upper aspect of the bar serve to fix the rings from which hangs the head-piece. The latter consists mainly of two broad strips of leather, elongated oval in shape, moulded to receive the chin and the occiput respectively. These are connected above with the rings just mentioned, and are held in position by means of a strap sewn to the posterior flap, and fixed to buckles carried by the chin-piece, so as to hold the head-support in place when the patient is suspended.

Much depends upon this strap, which must be tightened enough to prevent any slipping, and yet not sufficiently to cause compression of the blood-vessels of the neck, and thereby unpleasant head-symptoms. It must be provided with a sufficient number of holes to accommodate itself to the varying thickness of the neck among those to be suspended. In case of need, which is not often, a soft body, such as lint or cotton-wool, may be inserted so as to prevent undue pressure of the strap or broad pieces upon the skin. It is necessary to exercise much care in fitting the head-piece and padding, so as to suit the peculiarities of each subject. The size of the head determines the notches into which the rings of the head-piece are to be fixed, the larger the head the wider apart they must be, of course.

When the head is duly disposed of, the shoulder-

pieces are slipped under the armpits. Though they may appear of minor importance, they really play the part of regulators during the period of suspension. For it is necessary that whilst lifted off the ground the patient should not be entirely supported by the head-piece, for then the traction would become, in some cases at least, absolutely intolerable. Though the weight of the body must be distributed upon other points, this additional support must not be so effectual as to prevent as complete an extension of the spinal column as possible.

The shoulder-pieces consist of elongated cylindrical padded cushions, terminating in straps provided with a series of holes so as to suit, by appropriate lengthening or shortening, the requirements of each patient. This adaptation is very important; for if too short, the shoulder-pieces exercise such a pressure upon the axillary vessels and nerves as to compel the operator to bring the suspension to an abrupt and premature termination. If, on the other hand, they are too long, the traction on the structures of the neck may become too painful to be tolerated, and interfere likewise with the treatment.

Careful trials are necessary to determine the exact length of the several straps; but after three or four operations it becomes easy to decide the arrangement suitable for each case.

When all is ready the physician orders his assistant—with some practice he may do without one—to apply traction upon the core, very gently and slowly, so as to avoid jerks, and to accustom gradually the muscles and ligaments to the unusual tension to which they are going to be submitted. The patient is to be cautioned not to make any movements whatever whilst he feels himself being lifted off the ground, for they would give rise to unpleasant lateral and rotatory displacements.

As soon as the toes cease to touch the floor, the operator holds the patient lightly, so as to check any oscillation or torsion of the cords, and carefully watches the number of seconds that elapse, so as to regulate minutely the length of each suspension. During this period the patient is made, at intervals of fifteen or twenty seconds, to raise his arms laterally away from the body, so as to transfer more weight upon the head-piece, and so render the traction upon, and elongation of, the vertebral column still more complete, as complete as is tolerated by each individual. Much care and vigilance is to be bestowed upon the proper performance of these abductions of the arms, both by patient and physician. As a rule, the longest time of suspension must not go beyond four minutes, three minutes being taken as the average duration. Half a minute is enough at the outset, the maximum being gradually reached during the first six or eight applications of the treatment.

Here again it is essential to take into account certain individual susceptibilities or physical peculiarities, among which stands foremost the body-weight of the patient; for whilst a person weighing from about 130 to 150 pounds may be suspended forthwith during two minutes or more, the case is quite different in the case of those whose weight reaches 180 pounds or more. In the latter, the tension to which the structures of the neck are subjected may become very severe and painful, and be felt sometimes for a whole day afterwards—an occurrence which must be avoided if the treatment is to be correctly carried out.

It is well to note that certain patients have such a wish—a very natural wish—to get better, that they think themselves bound to stand any amount of pain without complaining; but this circumstance is positively detrimental to the success of the treatment, which must be accompanied with but trifling discomfort at the most, without real pain or fatigue, lest it should defeat its own ends.

The maximum length of the suspension must, therefore, be suited to the requirements of each patient; it is obvious that in the case of heavy persons the effect on the spine must be very thorough and effective, owing to the greater traction to which it is subjected. Suspension must not be carried out oftener than once on alternate days, otherwise it may become more hurtful than beneficial. The time of the day is indifferent, but regularity in the operations is to be observed.

When the full time has elapsed the operator very gradually lets the rope loose, so as to avoid every trace of jerking during the descent. The patient is to be supported whilst being freed from the apparatus, and made to rest awhile in an arm-chair brought near for the purpose.

The patient, before the operation, should divest himself from his coat, so as to give freedom to the arms, and his neck must be free from any pressure from the collar, so as to avoid any trouble or discomfort from compression about the neck. Sayre's original apparatus usually comprises a movable tripod, to the top of which the upper pulleys are fastened by means of a hook. This tripod is not to be used for suspending ataxics, who, being often deficient in power to sustain their equilibrium, are apt to seize convulsively its legs in order to steady themselves, and in so doing would knock down the whole apparatus, and injure themselves and the bystanders. The suspensory apparatus must be fixed to an iron ring firmly screwed in the ceiling.

"The results obtained by Professors Eulenberg and Mendel at the Berlin Clinic for Nervous Disease in the cases of twenty ataxics, fully confirm, so far as can be judged from the comparatively

recent introduction of the new treatment, the encouraging outlook sketched out in Professor Charcot's communications. The improvement observed bears chiefly upon the walking power, the equilibration, the lightning pains, and, in a few cases, the bladder troubles. Moreover, no bad symptom whatever has been observed, even in the case of the female patients who are undergoing the regular course of suspensions. At the same time, the most sanguine observer must acknowledge that it is entirely premature to come to any definite conclusions upon a point of such deep perplexity as the question of the possibility of absolute cure in locomotor ataxy. Physician and patient alike must beware from falling into the temptation of conceiving exaggerated hopes as to the final results, in the presence even of effects as incontrovertible as those testified by so many able and critical observers."—*British Medical Journal*, March 9, 1889.

PUERPERAL FEVERS AND SEPTICÆMIA.—We copy the following from a letter by ROBERT BARNES, M.D., in the *British Medical Journal*, March 16, 1889.

By the term "puerperal fever," we must understand "fever in a puerpera."

As fevers of various kinds may assail non-puerperal persons, so they may assail puerperæ. We must, therefore, abandon the vain attempt to find one definite puerperal fever, and we must recognize the clinical truth that there are puerperal fevers.

There is, however, one constant underlying condition of all the puerperal fevers; that is, the puerperal constitution. This forms the soil in which all the disturbing influences work, in which noxious matters, from whatever source, internal or external, germinate, and which, without always destroying the individual properties of the foreign poisons, imparts to all some common features. It is also highly probable that under the mutual reactions of ingested poison and the puerperal constitution, new innominate poisons may be engendered.

The puerperal fevers may be classified under the two great divisions of autogenetic and heterogenetic. *a.* The autogenetic fevers are 1, the simple excretory puerperal fever, the result of endo-sepsis, or the arrest of the excretion of waste stuff of involution; it is especially prone to arise in damp cold weather. This form complicates all other fevers, even the septicæmic form; 2, the fever resulting from absorption of foul stuff from the parturient canal, either from the unbroken mucous surface, or by the open mouths of vessels, or from traumatic surfaces; this is autoseptic. This form is also likely to complicate other fevers; 3, this, the proper septicæmic puerperal fever, is revealed under the forms of metritis, peritonitis, pelvic cellulitis,

thrombosis, and general toxæmia. *b.* The heterogenetic fevers are due to a poison from without. These may be divided into 1, the cadaveric poison, which wrought such havoc before the days of Semmelweis, the septic stuff from other puerperæ, animal poisons of obscure origin; and 2, the known zymotic poisons, as small-pox, scarlatina, typhoid, diphtheria, erysipelas.

All the various modes of infection recognized as acting in non-puerperal subjects act in the puerpera; but she is especially open to invasion by direct inoculation by the parturient tract, and empoisonment by all routes is greatly favored by the peculiar activity of the absorptive function.

Can any one of the foregoing propositions be disputed? Are they not the direct expression of precise objective clinical observation, freed from the bias of subjective idols? What then becomes of the dogma of septicæmia pure and simple?

I have shown that this dogma is not only false, but therefore dangerous. To see in septicæmia the only evil is to fix all therapeutical energy upon what is commonly understood as antiseptic treatment. This is the course advocated by the more earnest of the septicæmic school. Without affirming that they recognize no other remedies, it is not too much to say that they carry the practice of antiseptic irrigations to an irrational extreme, and to the comparative neglect of other important indications. They assume, on the other hand, that those who deny the exclusive dogma of septicæmia are stricken with therapeutical impotence. "The doctrine of antogenesis," exclaims Parvin, "is a confession of ignorance, the creed of fatalism, the cry of despair. . . the very pessimism of obstetric medicine." Big words, full of sound, and little else! The truth is, that those who take a broad, comprehensive catholic view of the many factors in the etiology, and constitution of puerperal fevers, take also a broader, more philosophical, and more rational grasp of the principles of treatment, and especially of prophylaxis. I hope I may be pardoned for saying that in no text-book of obstetrics is antiseptic treatment more carefully described than in that which bears my name.

I may fitly conclude with citing from a paper on "Antiseptic Midwifery and Septicæmia in Midwifery." "So far as antiseptic appliances are concerned, they can strictly only be regarded as subsidiary means in the carrying out of the great principle that lies at the bottom of all good obstetric practice—namely, to screen the lying-in women from those poisons and other noxious influences which threaten her from within and from without. It is not, therefore, desirable to devote special or separate attention to what, after all, is only a part of a great therapeutical scheme. The essential thing is to take such a large view of the physiological and pathological processes as

will give the right indications to call upon each and all of the therapeutical agents at our command. To fix the mind too intently upon any one of these agents is to incur the danger of neglecting others, and of losing sight of the principle which ought to guide the application of all, as one force directed to one end."

A NEW ANTIDOTE FOR MORPHINE.—In the *Internationale Klinische Rundschau* for January 27, 1889, PROFESSOR ARPAD BOKAI recommends picrotoxine as an antidote for morphine, on the ground that it exerts an antagonistic action to morphine on the respiratory centres; for, while morphine tends to paralyze these centres, picrotoxine exerts a powerful stimulating effect. Since, therefore, death in morphine poisoning is usually attributable to paralysis of the respiratory centre, on this ground alone picrotoxine should be indicated as a valuable antidote. Further, morphine may produce such rapid reduction in blood-pressure as to endanger life; while picrotoxine, on the other hand, is a powerful stimulant to the vaso-motor centre, and is in this respect also an antagonistic to morphine. Professor Bokai adds that the action of morphine on the cerebrum is directly exposed to that exerted by picrotoxine. Finally, Professor Bokai suggests that the previous administration of a small dose of picrotoxine might reduce the danger of asphyxia in chloroform narcosis.—*Therapeutic Gazette*, March 15, 1889.

AN EARLY SIGN OF ENDOCARDITIS.—DR. DUCLOS, of Tours, writing in the *Revue Générale de Clinique et de Thérapeutique*, January 17, 1889, records a fact of his experience, in regard to commencing endocarditis, which may possibly be of value as an aid in the early recognition of this affection. While in charge of a military hospital he chanced to have a large number of young soldiers suffering from acute articular rheumatism under his care. One day, while listening to the heart-sounds of one of these patients, his finger being at the same time on the radial pulse, he was struck with the want of synchronism between the ventricular contraction and the pulsation at the wrist, the latter being delayed about two-thirds of a second. The following day a systolic apex murmur was heard. Thinking that this retardation of the radial pulse might have some significance in connection with the subsequent development of endocarditis, he took pains to note its occurrence in other cases, and found that it was followed by a murmur at the end of from twenty-four to thirty-six hours in every instance. These observations were extended over a period several years, and were confirmed in a number of cases by Professors Parrot and Potain.

The author has no conclusive theory to offer in

¹ American Journal of Obstetrics, 1882.

explanation of this phenomenon, but he thinks that it is probably due to a weakening of the muscular fibres subjacent to the endocardium. He compares it to the weakened respiratory murmur frequently observed at the beginning of a pleurisy a few hours before a friction sound is developed or effusion takes place. It would be interesting to learn whether this want of synchronism is present in the beginning of endocarditis arising in the course of other diseases, but the author has few observations bearing on this point to record. He has noted it, however, in two cases of typhoid fever and in three of erysipelas, in which endocarditis, subsequently developed.

Dr. Duclos draws some practical conclusions, in regard to treatment, based upon the early recognition of the affection, and he believes that he has succeeded in arresting the disease, in certain cases, before irreparable injury had resulted. His plan is to apply immediately a large flying blister over the præcordial region, or, in default of this, a mustard-plaster, dry cups, or leeches. He increases also the dose of the remedy that is being at the same time given for the rheumatism. Of course, a strict enforcement of recumbency is also indicated.

When we consider the importance of an early diagnosis of endocarditis, and the possibility of arresting the disease if detected in its incipency, this alleged premonitory symptom of the affection is worth testing in order to determine the amount of practical utility that it may possess.—*Medical Record*, March 30, 1889.

WHEN TO PRESCRIBE DIGITALIS.—Notwithstanding the increasing additions to the list of so-called cardiac medicaments digitalis still holds its position as the most certain and most widely used; but in order to derive all the good possible from it is necessary to understand clearly the indications, and not to give it indiscriminately, as is too often done. MR. HUCHARD has set forth these indications very clearly in his recent work, "When and How Should Digitalis be Prescribed."

In order to understand clearly the indications and counter-indications, the valvular affections of the heart must be divided into four stages or periods. The first is the period of *ensystole*. During this time the lesion is compensated, and nothing should be done in the way of medication; all our efforts are to be confined to maintaining good hygiene. Digitalis is useless.

During the second period, that of *hypersystole*, the contractions are violent, and compensation is exaggerated. Hygiene still plays an important part, and the cardiac sedatives, aconite, arsenic and the bromides, are indicated; digitalis is injurious.

The situation is entirely different in the period of *hyposystole*, or temporary asystole. The cardiac muscle and vessel become asthenic. This is the

stage of cedemas, congestion of the viscera, dropsies; the heart beats softly and feebly, etc. Digitalis is now of the greatest service; it is here triumphant.

Finally, in the period of *asystole* or *amyocardia* the cardiac muscle is profoundly degenerated; there is paresis of the heart, the *definitive cardioplegia* of Gubler. Digitalis is still sometimes useful, but it may in time become inefficacious, and occasionally it is injurious. Caffein in large doses is here sometimes very valuable.

Huchard considers a maceration of the drug as the best form for administering it. He does not give the infusion, which is preferred by some physicians, for, when it is necessary to act quickly, we cannot wait for twelve hours, which time is required for macerating. This is the method for making the maceration:

R. Leaves of digitalis, in powder . . . 25 to 40 cent.
Cold water 300 grams.

Macerate for twelve hours, and filter carefully, in order to avoid the retention of a certain amount of the powdered digitalis, which is capable of producing nausea and vomiting by its irritant action upon the mucous membrane of the stomach. The infusion may be sweetened with any agreeable syrup.

This maceration should be taken in five or six doses during the day, between meals; the digitalis should be prescribed in diminishing doses; thus, 40 centigrams the first day, 30 cgr. the second, 20 cgr. the third, etc. As a rule, the digitalis should be suspended after four or five day's use. (*Journal de Médecine et Chirurgie Practiques*.)—*New Orleans Medical and Surgical Journal*, March, 1889.

MAGISTERIUM BISMUTHI IN INFANTILE SUMMER DIARRHŒA.—In the St. Petersburg weekly *Russkaia Meditzina*, No. 30, 1888, DR. A. PÜGINOFF says that subnitrate of bismuth constitutes the most reliable remedy for epidemic summer diarrhœa in nurslings. He gives the drug in large doses, feeling sure that a pure preparation is excreted *per anum* wholly and in an unaltered state. Thus, to an infant of 4½ months, he administers 1½ or 2 grains every 2 hours. The main advantages of the subnitrate over all other means are stated to be these: 1. The drug does not give rise to any untoward accessory symptoms. 2. It is readily taken and perfectly well borne. 3. It acts on the intestinal tract both as a sedative and as an antiseptic.

THE TREATMENT OF CORNS.—DR. C. McDERMOTT writes to the *British Medical Journal* that a saturated solution of salicylic acid in flexible collodion is an excellent remedy for corns. The corns should be painted twice a day. It takes about twelve days for their complete removal.

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SATURDAY, APRIL 13, 1889.

CLIMATIC INFLUENCE IN PHTHISIS.

The reception of a neat reprint edition of the excellent paper on the "Preferable Climate for Phthisis," read at the Ninth International Medical Congress, Washington, 1887, by DR. CHAS. DENISON, Denver, reminds us that there are few questions of more practical importance to the general practitioner, than the one so frequently asked by his patient affected with pulmonary phthisis, *i.e.*, Will a change of climate benefit me and if so, where shall I go? In assuming to answer the anxious inquirer by simply saying, "You better go to the mountains, or to California, Colorado, Texas or Florida, or in more general terms, to a mild, dry, and elevated region," more patients have been sent astray than in any other department of medical practice. That a large proportion of cases of chronic diseases of the lungs, including tubercular phthisis can be arrested, and many of them permanently cured by residence in a proper climate, commenced at the proper stage of the disease, has been proved by ample experience. The possession of accurate knowledge concerning the elements that give special character to climate and their influence on the functions of the human body, and the ability to ascertain the extent and stage of progress of the morbid conditions in each patient are the essential qualifications needed by every practitioner, who would do justice to those who depend upon him for advice. The studies necessary to gain the knowledge mentioned as constituting the first part of these

qualifications do not hold as prominent a position in the curriculums of study, either preliminary or medical, devised for those who would enter the ranks of the medical profession as they should. Therefore Dr. Denison well says in the beginning of his paper: "Hitherto, the chief obstacles in the way of right conclusions have been: 1. Ignorance of the exact nature and progress of the disease, and 2. A lack of appreciation of the relative importance of different climatic attributes in its arrest."

A thorough knowledge of physics, topography and geology should constitute an essential part of the qualifications needed for entering upon the study of medicine; and the application of the facts and physical laws furnished by these branches, in the study of physiology, pathology, and etiology, in the medical course, should be much more systematic and thorough than has hitherto been done in most of our medical colleges. The word *climate* is used to indicate the sum or aggregate of qualities possessed by the atmosphere in any given locality and at any specified season of the year. The chief elements that determine the quality of a climate are 1. purity of the air or freedom from foreign ingredients; 2. temperature; 3. dryness; 4. rarefaction as determined by altitude; 5. the amount of sunshine; 6. electricity; 7. variability as opposed to uniformity; and 8. motion or wind. All these climatic elements are influenced directly or indirectly by the topography or configuration of the earth's surface, the composition of the soil and superficial strata in each locality, and the presence or absence of large bodies of water. The two elements, purity and rarefaction bear a direct ratio to altitude, while the temperature, dryness and amount of sunshine and electricity are influenced much by the altitude, latitude and composition and configuration of the earth's surface. An uneven, hilly or mountainous surface composed largely of sand, gravel or rocks, not only admits of free drainage, retaining less water for evaporation, but it both absorbs and radiates heat with rapidity; while a level surface composed of a liberal intermixture of clay, with the latitude and altitude the same, retains the water for evaporation, thereby giving to the superimposed atmosphere a much higher degree of moisture, while the absorption and radiation of heat are much slower. As the amount of sunshine and electricity depend

largely upon the amount of atmospheric moisture and currents with variability of temperature, it is readily seen that the composition and configuration of any locality must be taken into consideration in estimating the special characteristics of its climate. For the same latitudes we may deduce the following climatic law: The purity, coolness, dryness, rarefaction and sunshine will be in direct proportion to the altitude, and the unevenness and porosity of the surface; while the electricity and direction and velocity of the winds will be modified by the proximity of mountain ranges or large bodies of water. The influence of the several climatic elements mentioned in this law on the functions of respiration, circulation, elimination and nutrition, and their bearing or adaptability to the treatment of different stages of pulmonary phthisis will be briefly considered in the next issue of THE JOURNAL. In the meantime we wish every practitioner would read the paper of Dr. Denison, and as much of similar literature by other authors as he can find.

INTUBATION IN DIPHTHERITIC LARYNGITIS.

In the *New York Medical Journal*, March 9, 1889, DR. DILLON BROWN gives the result of 200 cases of intubation of the larynx for diphtheritic croup, performed by himself, and in addition collates from the published statements of 165 other operators in America, Germany, France, England, Spain and Canada, an aggregate of 2,168 cases, making, with his own, a total of 2,368 cases, by 166 operators. Of the whole number 647, or 27.3 per cent., recovered. Of the 200 cases operated on by Dr. Brown 54, or 27.3 per cent., recovered. He mentions having seen 23 additional cases that recovered without operation, and 4 that died, in which intubation was urged but refused. The alleged causes of death in 144 of the fatal cases intubated by Dr. Brown were: extension of the disease to the bronchi, 63; sepsis, 24; pneumonia, 15; exhaustion, 11; nephritis and convulsions, 11; sudden heart failure, 8; extension and pneumonia, 7; asphyxia 2; tuberculosis, 1; general paralysis, 1; and scarlet fever and sepsis, 1.

The general table of 2,368 cases given by Dr. Brown includes 158 cases reported by Dr. F. E. Waxham, of Chicago, with 43 recoveries. In a clinical lecture by Dr. Waxham, published in the

North American Practitioner, March, 1889, he gives 30 additional cases, with 17 recoveries, making the total number of his cases 188, with 60 recoveries, or 31.3 per cent. Both Drs. Brown and Waxham report a higher ratio of recoveries in their later than in their earlier operations. This is attributed to the acquisition of greater skill by practice in the insertion and removal of the tube, and in guarding against accidents and complications. May not an important part of the higher ratio of recoveries be the result of an earlier resort to intubation without waiting until the patient is in such imminent danger of suffocation or fatal exhaustion, as is usual before obtaining permission to perform tracheotomy? And yet up to the present time the tabulated statements of both intubation and tracheotomy differ but little in the relative ratio of recoveries and deaths; and we have no means of knowing how many of those subjected to these operations would have recovered if no operation had been performed. The impression made upon the popular mind is, that every case recovering after either operation is a life saved by the operative procedure that would have been otherwise certainly lost. Such a conclusion, however, is not justified by a fair consideration of all the facts. To ascertain the real value of either intubation or tracheotomy in true diphtheritic croup we must be able to compare the results of the treatment of an adequate number of cases, in the same season, of similar age and in similar sanitary surroundings without operative procedures, with those subjected to the most skillful operative methods.

As stated above, Dr. Brown mentions having seen 27 cases that were treated without either intubation or tracheotomy, of which 23 recovered and 4 died. Another writer mentions 13 cases that were so bad operative procedures were deemed useless, and yet 4 of them recovered without such aid. Both Drs. Brown and Waxham concede the marked benefit derived from the efficient use of the bichloride of mercury as an internal remedy. The former states that of the last 115 cases on which he had practiced intubation 50 had been treated medicinally without the bichloride and 12, or 24 per cent., recovered. The other 65 were treated with the bichloride in doses of gr. $\frac{1}{40}$ to gr. $\frac{1}{80}$ every hour, and 24, or 36.9 per cent., recovered. In the foregoing comments we do not desire to discourage the judicious resort to operative

procedures in diphtheritic laryngitis when suffocation is imminent from the direct obstruction of the larynx, but simply to suggest caution in resorting to surgical methods too indiscriminately, and to the neglect of the most efficient medical treatment in the early stages of the disease.

THE OFFICIAL PRELIMINARY PROGRAMME.

We publish to-day the programme of the general sessions of the coming meeting of the Association. A better selection of those to deliver general addresses could not have been made. The reports from the officers of Sections also promise a most interesting and instructive series of papers for them. Excellent arrangements have been made for the meetings of the Sections. The social part of the meeting has not been forgotten. One of the pleasantest features planned by the Committee of Arrangements will be a steamboat excursion on the fourth day of the sessions, given by the Rhode Island Medical Society, to Providence, when the Rhode Island Hospital and Butler Hospital for the Insane will be inspected, and an old-fashioned clambake will be enjoyed at a shore resort on the way back to Newport.

EDITORIAL NOTES.

TEXAS STATE MEDICAL ASSOCIATION.—The next annual meeting of this Association will be held in San Antonio, commencing April 23, 1889.

THE OFFICIAL NOTICE OF THE NEXT ANNUAL MEETING of the American Medical Association, by the Permanent Secretary, will be found in the columns for Association News in the present number.

PHILADELPHIA POLYCLINIC.—The following recent additions and changes have been made: A chair of Diseases of the Mind and Nervous System and a chair of Obstetrics and Diseases of Children have been established; Professor S. Weir Mitchell has been appointed to the first and Edward P. Davis to the second. Dr. B. Alex. Randall has been appointed to the chair of Diseases of the Ear, in place of Dr. Burnett, resigned.

CHICAGO MEDICAL COLLEGE CHANGES.—At a recent meeting of the Trustees and Faculty, the regular annual college term was extended to seven months. Dr. G. W. Webster, who had given the course on Physiology during the past year, was

unanimously elected to the professorship; and an *optional* full four years' course was recommended and will appear in the annual announcement.

THE WOMAN'S HOSPITAL MEDICAL COLLEGE OF CHICAGO held its nineteenth annual Commencement on the 2d inst., at which the degree of Doctor in Medicine was conferred upon 25 young women. The Rush Medical College had graduated 127; the College of Physicians and Surgeons 48; and the Chicago Medical College 46, young men; making the total number of graduates from the four regular medical colleges of Chicago for 1889, 246.

ARMY MEDICAL BOARD—VACANCIES IN THE MEDICAL CORPS.—In the columns for miscellaneous notices and news items of the present number, will be found an official notice from the Surgeon-General of the U. S. Army, stating that an Army Medical Board will be in session in New York City from May 1 to 31, 1889, for examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. We are informed that there are seven vacancies existing at present in the Medical Corps, to which another will be added in July by the retirement of a medical officer, making eight appointments to be recommended by the Board. Among the many recent graduates of the medical schools and hospitals of our country, there must be some ambitious for military life with its duties and honors, and if so, they cannot have a more favorable opportunity for presenting themselves than the one indicated in the Surgeon-General's notice alluded to above.

THE ETIOLOGY OF CONSTITUTIONAL IRREGULARITIES OF THE TEETH has been very carefully studied in some recent papers by DR. EUGENE S. TALBOT, of Chicago, the papers having been recently published in pamphlet form. He shows that constitutional irregularities of the teeth prevail to a greater extent among the idiotic, deaf and dumb, and blind, than among an equal number of strong and healthy persons, and claims that arrest of development is the result of malnutrition during embryonal and infantile growth, influenced by consanguineous marriages, scrofula, drunkenness in parents, prenatal influences, intra-uterine education, and constitutional diseases, or of inflammation of the osteophytic membranes *in utero*. Irregularities of the teeth, he says, do

not exist among normal or large jaws, while among those who have abnormally small jaws, the majority have irregular teeth. In a second paper Dr. Talbot makes some very strong arguments in favor of arrest of development of the maxillary bones being due to race crossing, climate, and soil. It is shown that these irregularities of the teeth and jaws are not found in pure races nor in aborigines, while they are common in mixed races, and more common in the offspring of races differing widely from each other. Conditions of life, climate, soil, and food, play an important part in these irregularities, when taken in connection with race-mixture. Dr. Talbot then goes on to consider the subject in detail, and his papers are well worth careful study.

HYDRONEPHROSIS RELIEVED BY POSITION.—MR. R. H. A. HUNTER reports in the *British Medical Journal*, the case of a woman with a painful swelling in the right side, which had been increasing in size for three weeks. This was diagnosticated as a case of hydronephrosis, and the patient was directed to rest in bed with the pelvis elevated up on pillows. After remaining in this position for a few hours the patient suddenly felt a desire to pass water, and passed about a pint. In a short time she again passed about a pint and a half, and the swelling had disappeared.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held in Newport, R. I., June 25, 26, 27 and 28, 1889.

The Fortieth Annual Session will be held in Newport, R. I., on Tuesday, Wednesday, Thursday and Friday, June 25, 26, 27 and 28, commencing on Tuesday, at 11 A.M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies as are recognized by representation in their respective State Societies, and from the Medical Department of the Army and Navy, and the Marine-Hospital Service of the United States.

"Each State, County and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members,

and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by Application shall consist of such members of the State, County and District Medical Societies entitled to representation in this Association, as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the Society of which they are members, and the amount of the annual membership fee, five dollars. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

The following resolution was adopted at the last session: That in future, each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of Medical Societies, as above designated, are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the rolls the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send to him, annually, a corrected list of the membership of their respective Societies.

AMENDMENTS TO THE CONSTITUTION.

Amendment proposed by Dr. N. S. Davis, of Illinois:

"The General Committee shall be composed of two members from each State and Territorial Medical Society entitled to representation by delegates in the Association, and from the Medical Departments of the U. S. Army, Navy, and Marine-Hospital Service. They shall be chosen by the members registered and present at each annual meeting from each State and Territory, and from the Medical Corps of the U. S. Army, Navy and Marine-Hospital Service, acting separately, on the third day of each annual meeting; each delegation reporting the names of the members chosen to the Permanent Secretary of the Association on the same day, that they may be announced by him at the opening of the morning session of the fourth day. At the first election each delegation shall choose two members of the General Committee, one of whom shall serve one year, and the other two years, and at each annual election thereafter one member shall be chosen to serve for two years, thus making the term of office of members of the General Committee two years. It shall be

the duty of the General Committee thus constituted, to organize by choosing annually a Chairman and Secretary, and such subcommittees as may be found necessary to facilitate the work that may be assigned to it; to meet annually at the place and on the day preceding each annual meeting of the Association, and as often during that week as may be necessary; to nominate, on the third day of each annual meeting, all the general officers of the Association (none of whom shall be members of its own body), the members of the Committee of Arrangements, the Committee on Necrology, seven members of the Judicial Council, and three members of the Board of Trustees for Publication, for election by the Association; to recommend the place and time of holding the next annual meeting; and to consider and report upon all subjects that may be referred to it by vote of the Association. The presence of one-third of the whole number of members elected to the General Committee shall constitute a quorum for the transaction of business. If, at any annual meeting of the Association, it shall be found at the close of the general meeting of the first day that a quorum of the General Committee is not present, it shall be the duty of the President and Permanent Secretary to fill the vacancies in the Committee temporarily by selections from the lists of delegates registered as present from the States to which the vacancies belong."

Should this provision be adopted by the Association, the Permanent Secretary should be authorized to substitute the name "General Committee" for "Nominating Committee," wherever the latter occurs in other parts of the Constitution and By-Laws.

Amendment offered by Dr. J. M. Keller, of Arkansas:

"To change the By-Law whereby the officers of the Sections are elected by the Sections."

Amendment offered by Dr. N. S. Davis:

"Strike out the last clause of paragraph VII, relating to individually affixing names to the Constitution and Regulations of this Association."

Amendments offered by Dr. H. N. Moyer, of Illinois:

"There shall be created a Section of Pharmacy and Materia Medica, which shall have its own autonomy, in like manner as the Section in Dental and Oral Surgery. Reputable members of the State Pharmaceutical Associations shall be eligible as members of the same on presentation of credentials from their State Secretary, but shall have no voice in the general sessions of the Association.

"The Section of Surgery shall hereafter be denominated the Section of Surgery and Gynecology.

"There shall be created a Section of Anatomy and Physiology.

"The Section of Obstetrics and Diseases of Women shall be abolished.

"The Section of Diseases of Children shall hereafter be denominated the Section of Obstetrics and Pædiatrics.

"The Section of Dermatology and Syphilography shall hereafter be denominated the Section of Dermatology and Genito-urinary Diseases.

"The Section of Medical Jurisprudence shall hereafter be denominated the Section of Mental and Nervous Diseases.

"The Section of State Medicine shall hereafter be denominated the Section of State Medicine and Medical Jurisprudence.

"The Section of Practice of Medicine, Materia Medica and Physiology shall hereafter be denominated the Section of Internal Medicine."

Committee of Arrangements: H. R. STORER, Chairman, Newport, R. I.

WM. B. ATKINSON, M.D., Per. Sec'y.

SECTIONS.

"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including such suggestions in regard to improvements in methods of work, and present, on the first day of its annual meeting, the same to the Section over which he presides. The reading of such address not to occupy over forty minutes. . . ."—*By-Laws*.

Practice of Medicine, Materia Medica and Physiology.—Dr. F. C. Shattuck, Chairman, Boston, Mass.; Dr. G. A. Fackler, Sec'y, Cincinnati, O.

Obstetrics and Diseases of Women.—Dr. W. H. Wathen, Chairman, Louisville, Ky.; Dr. A. B. Carpenter, Sec'y, Cleveland, O.

Surgery and Anatomy.—Dr. N. P. Dandridge, Chairman, Cincinnati, O.; Dr. W. O. Roberts, Secretary, Louisville, Ky.

State Medicine.—Dr. J. Berrien Lindsley, Chairman, Nashville, Tenn.; Dr. S. T. Armstrong, Sec'y, U. S. M.-Hosp. Service.

Ophthalmology.—Dr. George E. Frothingham, Chairman, Ann Arbor, Mich.; Dr. G. C. Savage, Sec'y, Nashville, Tenn.

Laryngology and Otolaryngology.—Dr. W. H. Daly, Chairman, Pittsburgh, Pa.; Dr. E. Fletcher Ingalls, Sec'y, Chicago, Ill.

Diseases of Children.—Dr. J. A. Larrabee, Chairman, Louisville, Ky.; Dr. C. J. Jennings, Sec'y, Detroit, Mich.

Oral and Dental Surgery.—Dr. F. H. Rehwinke, Chairman, Chillicothe, O.; Dr. E. S. Talbot, Sec'y, Chicago, Ill.

Medical Jurisprudence.—Dr. James G. Kiernan, Chairman, Dunning, Ill.; Dr. T. B. Evans, Sec'y, Baltimore, Md.

Dermatology and Syphilography.—Dr. L. D. Bulkley, Chairman, New York; Dr. W. T. Corlett, Sec'y, Cleveland, O.

A member desiring to read a paper before a Section should forward the paper, or its title and

length (not to exceed twenty minutes in reading), to the Chairman of the appropriate Section at least one month before the meeting.—*By-Laws*.

OFFICIAL PRELIMINARY PROGRAMME.

FIRST DAY, TUESDAY, JUNE 25.

Assemble in Music Hall, Bellevue Avenue, at 11 A.M.

Meeting called to order by Dr. Horatio R. Storer, Chairman Committee of Arrangements.

Prayer. Rev. Thatcher Thayer, D.D. (Cong.), the senior clergyman of Newport.

Reading names of delegates and others thus far registered, by Permanent Secretary, Dr. Wm. B. Atkinson, of Philadelphia.

Announcement of the programme for the day, of halls for the Sections, that papers not already listed be handed to Chairman of Committee of Arrangements for reference to appropriate Sections, that Judicial Council meet at 2 P.M. at Newport Casino, and that, to prevent the usual haste and confusion, the delegates from the different States hold their separate meetings, to elect members of the Nominating Committee, at 9:30 A.M. Wednesday, at the Music Hall, half an hour before the general session.

Addresses of Welcome by Hon. Thomas Coggeshall, Mayor of Newport; by Dr. Henry E. Turner, of Newport, President of State Board of Health, on behalf of the profession of Newport; and Hon. James H. Eldredge, M.D., of East Greenwich, ex-President of Rhode Island Medical Society, on behalf of the profession of Rhode Island.

Presidential Address, Dr. W. W. Dawson, of Cincinnati, Professor of Surgery in the Medical College of Ohio.

SECOND DAY, WEDNESDAY, JUNE 26.

Meeting called to order by the President of the Association, at 10 A.M.

Prayer.

Reading continuation of registry list, of programmes for the day, and call for reports as to elections upon Nominating Committee.

Address on Medicine, by Dr. Wm. Pepper, of Philadelphia, Provost of the University of Pennsylvania.

Report of the Trustees of THE JOURNAL.

Consideration of proposed Amendments to the Constitution.

Announcement of Nominating Committee, and that it will report at close of Thursday's general session.

THIRD DAY, THURSDAY, JUNE 27.

Meeting called to order by the President, at 10 A.M.

Prayer.

Reading of continuation of registry list, and of

programmes for the day, and notice that all new business must be introduced at to-day's session.

Address on Surgery, by Dr. Phineas S. Conner, of Cincinnati.

Introduction of New Business.

Report of Treasurer.

Report of Librarian.

Report of Rush Monument Committee.

Report of Nominating Committee.

FOURTH DAY, FRIDAY, JUNE 28.

Meeting called to order by the President at 9 A.M.

Prayer.

Reading of continuation of registry list, and of programmes for the day.

Address on State Medicine, by Dr. W. H. Welsh, of Baltimore.

Report of Necrologist.

Reading names of newly elected officers of the Sections and Delegates to Foreign Societies.

Introduction of the in-coming by the retiring President.

Response by the former.

Final Adjournment.

Special Attention is called to the following Rules of the Association :

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Asso-

ciation, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the American Medical Association on the day of 18 ." (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting, December 12, 1888.

THE PRESIDENT, THOMAS C. SMITH, M.D., IN THE CHAIR.

DR. A. A. HOEHLING read the history of a case of

PHTHISIS PNEUMONICA ET LARYNGITIS CHRONICA.

(See page 481.)

DR. BERMANN said he was much interested because in later years other ways of treating laryngeal phthisis have been tried with success—Rosenthal used beech-wood, creasote—published in Berlin four or five months ago—with doses be-

ginning with 1 decigramme; second week 2 decigrammes, continued for a week, increasing 1 decigramme daily each week, until he reached 8 decigrammes daily. He, Dr. Bermann, had treated a severe case with creasote with marked benefit. Another treatment of laryngeal phthisis is by lactic acid applications, which he has used and been well satisfied.

DR. HOEHLING said in the case reported they had only made the man comfortable, and had not attempted any specific treatment.

DR. MURRAY said the disease is most distressing when it invades the larynx. He has never found anything to heal tubercular laryngeal ulcer in his own experience—has never tried lactic acid, insufflations of iodoform of idol, morphia, and of iodol and morphia, with good results. He thought the treatment with creasote was suggested about ten years ago by a Frenchman, and not by the Germans as he understood Dr. Bermann to claim.

DR. BERMANN did not claim that Rosenthal originated creasote treatment.

DR. MCARDLE: Having observed the effect carboic acid has upon the kidneys wondered if creasote would have any deleterious effect upon kidneys if used as Dr. Bermann had described.

DR. BERMANN: The beech-wood creasote did not seem to act as other species did, and he had noticed no bad effect.

DR. C. E. HAGNER did not believe from his own experience that any tuberculous ulceration of the larynx was curable, and did not believe these ulcers ever existed without sufficient evidence of tuberculosis elsewhere. Thought from present state of knowledge we might as well give up when we saw the bacilli. Had never seen a tubercular laryngeal ulcer cured.

DR. H. L. E. JOHNSON did not think the creasote obtained from beech-wood could act physiologically different from any other variety; there was no difference chemically.

DR. BERMANN: Creasote from beech-wood had a different specific gravity; he did not know the chemical difference.

The discussion on Dr. Schaeffer's paper on

MICROSCOPICAL DIAGNOSIS OF CANCER

was resumed. (See pages 403 and 424.)

DR. BERMANN did not think it impossible to diagnose cancer of kidney and bladder from cells in the urine; he wished to put himself on record thus. Thought the case ought to be discussed otherwise than as cancer on account of the changes in the pathological condition due to the long presence of the stone in this case.

DR. GRAY was under the impression the diagnosis was encephaloid carcinoma, and the specimen slide which he showed proved to be a squamous epithelioma.

DR. SCHAEFFER said as to the statement of

encephaloid carcinoma he had merely taken the report; he had not seen the specimen at all.

DR. GRAY did not agree with Dr. Bermann. The majority of authorities on the subject deny the existence of a specific and diagnostic cell of cancer, in fact those claiming the existence of such a cell are in a noticeable minority, he could only recall to mind one such, namely, Ziegler, and his statements even not very positive. He did not believe it possible to diagnose cancer of kidney positively, unless fragments of the tumor were found in the urine, then it was possible by seeing the relation of the cells, the mere presence of a multinuclear epithelial cell is not diagnostic of cancer, because such cells may be formed in any inflammation of the urinary tract. A multinuclear epithelial cell simply means that the cell is undergoing division, and represents some form of karyokinesis. Diagnosis of cancer by such cells is simply guess-work. Considered the epithelial cell of cancer as a normal cell in an abnormal place.

DR. BUSEY: Could fragments of sufficient size come through the ureters?

DR. GRAY thought it were possible.

DR. J. F. THOMPSON was obliged to Dr. Gray for the opinion he had expressed. He had spoken the other evening in a general way and from a surgical standpoint. His remarks were meant to apply to cells found floating in the urine, and he had consulted his books and still believes there is no distinctive cancer cell. Dr. Gray had expressed his views so well that he had nothing else to say. He quoted from Holmes' Surgery in support of his argument.

DR. BERMANN differed from the opinions of Drs. Gray and Thompson.

DR. THOMPSON: The stone in the kidney in this case would change the appearance of the epithelial cells to such an extent that it would be utterly impossible to distinguish a cancer cell in it.

DR. SCHAEFFER, in closing, thought the subject had been exhausted, and was much gratified at the amount of discussion his paper had elicited. He had quoted extracts from a work on surgery to show that the attitude of modern surgeons was somewhat against the microscopist. There was such a thing as cancer and that it contained cells. When Dr. Gray said *he*, Dr. G., could not distinguish cancer cells except there be considerable tissue *he*, Dr. S., would not contradict him, because a gentleman who made such beautiful sections as did Dr. Gray was excusable for not having devoted a sufficient amount of time to the other branch of the microscopist. Dr. Thompson stands with the attitude of the majority of modern surgeons, but it was this theory *he*, Dr. S., was combatting.

DR. T. E. MCARDLE read the history of the diagnosis, course and treatment of a case of

PERITYPHLITIS.

(See page 406.)

DR. THOMPSON detected deep-seated fluctuation in this case at his first visit and operated on the following morning, making an incision $2\frac{1}{2}$ inches in length, and carefully dissecting down to the peritoneum, and after incising it the pus was discharged, introduced two fingers and examined the appendix, carefully washed out the wound with an antiseptic fluid and left a drainage tube in the wound for a day.

DR. THOMAS E. MCARDLE reported a case of ANEURISM OF THE AORTA, WITH SPECIMEN.

W. A. B., was born in Warren, Ohio, Dec. 15, 1845. He entered the army as drummer boy of Co. C, 84th Regiment Ohio Volunteers, not being old enough to enlist otherwise. In 1863 he entered the volunteer navy as Master's mate in the Mississippi squadron, and was soon promoted to an ensigncy. At the close of the war he was honorably discharged. He suffered with pleurisy during his infantry service at Cumberland, Md., and from malarial fever while on the Tennessee river. On April 19, 1887, he had an attack of "catarrhal strangulation," (?) from which he nearly died. The following August he began to complain of a pain in his chest, and his side and back ached. He was sent to Cleveland to consult the family physician, who diagnosed functional heart trouble and great nervous prostration. He recommended change of scene in a warmer climate, and in November the patient left for Florida, where he remained until driven away by the yellow fever in July, 1888. He seemed much benefited by his residence in Florida, gained flesh and almost completely lost his cough. In the spring, however, he suffered from fever and ague, and quickly lost all he had gained. He came to Washington in July, 1888, but I did not see him until Nov. 18. At that time he was in a very feeble condition. He suffered from a distressing cough, had severe pain in upper part of right side, had no appetite, and slept badly. He would not remain in bed, however, but persisted in getting up and dressing himself. Three days later I saw him again and he seemed not to suffer so acutely. On the morning of Nov. 30, whilst getting out of bed to dress himself, he suddenly expired.

Necroscopy by Dr. D. S. Lamb: Slight deformed prominence of upper, anterior, inner portion of right side of thorax corresponding to sternum and first three ribs. Upper right side of sternum eroded from pressure of aneurism. Right lung compressed by aneurism and by an effusion of blood in pleura which had clotted; firmly adherent to sac. There were also several old pleuritic bands of lower lobe not connected with aneurism; also three firm nodules, size of peas, in margin of lower lobe, two of them darkly pigmented, the other with a calcareous centre. Left

lung cedematous, serum in upper lobe colorless, in lower lobe stained with blood. Heart normal, displaced somewhat downwards by pressure of sac; contained small dark clots. Aorta atheromatous. On right side of ascending portion of arch was an opening 1.5 inch in diameter, leading into an aneurismal pouch, $6 \times 4 \times 4$ inches in size, rather spherical in shape, with thin walls, well lined with laminated clot, and closely adherent to upper lobe of right lung and sternum as stated. Extreme right portion of sac had ruptured into right pleura, which contained more than $\frac{1}{2}$ gallon of recent blood clot. Abdominal viscera, especially the liver, depressed well downwards towards pelvis by sac and coagula in pleura; all of them bloodless, otherwise normal. Bladder empty, normal.

Philadelphia County Medical Society.

Stated Meeting, January 23, 1889.

THE PRESIDENT, W. W. KEEN, M.D., IN THE CHAIR.

DR. EUGENE P. BERNARDY read a paper on BINIODIDE OF MERCURY. ITS ANTISEPTIC USE.

When I read my second paper "On the Value of Biniodide of Mercury as an Antiseptic in Obstetrics," before the Philadelphia Obstetrical Society (April 1, 1886), I fully intended leaving the results of my investigations to the medical profession, and let them, by further trial, confirm the correctness of my conclusions.

In reading several papers on antiseptics, the biniodide of mercury is declared insoluble, and therefore difficult to use; in one paper, the cost is the objection, it being stated to be more costly than the mercuric chloride. It is to be sincerely hoped that pecuniary considerations will never interfere in the use of any medicine that will assist in saving a human life. I certainly made myself clear in regard to making the biniodide a soluble salt, and called attention to the addition of *iodide of potassium*.

Dr. P. K. Bolshesolsky,¹ of St. Petersburg, (*Vratch*, 1887, Nos. 10 and 11, page 220), from numerous experiments made by himself in Professor A. P. Dobroslavin's laboratory, concludes that biniodide of mercury is a more powerful and less poisonous antiseptic than corrosive sublimate. A solution of 1 to 4,000 destroys putrefaction-microbes more completely than a corrosive sublimate solution of 1 to 2,000. The biniodide dissolved in a solution of potassium iodide was recently tried, with apparently good results, in three cases of laparotomy, under Professor A. I. Krassowski; for washing the floor a solution of 1 to 4,000 was employed; for disinfecting the

hands, 1 to 2,000; for instruments, from 1 to 2,000 to 1 to 3,000.

In the *Gazette de Gynécologie*, January 1, 1888, Professor Krassowski,² of St. Petersburg, reports a series of eleven laparotomies in which he used as an antiseptic equal parts of biniodide of mercury and potassium iodide in solution. Two deaths occurred from causes not connected with the operation; in each case post-mortem examination showed union of the wound by first intention, and absence of septic inflammation. The mercurial was first used in a strength of 1 to 1,000, which was progressively diminished to 1 to 4,000.

Krassowski concludes that a solution of 1 to 4,000 is an efficient antiseptic, and that this substance is less irritant than the bichloride, and can be applied to the integument in a 5 per cent. solution without producing irritation.

At the recent annual meeting of the Italian Obstetrical and Gynecological Society, Prof. Mangiagalli³ stated that the biniodide of mercury was a more active antiseptic than corrosive sublimate, less dangerous, and less injurious to instruments. The strength of the solution was 1 to 4,000, iodide of potassium, chloride of potassium, or chloride of sodium being used to increase the solubility of the biniodide.

Dr. Rogée-Saint Jean d'Angely (*Semaine Médicale*) states that the biniodide of mercury is not irritant to wounds, and is a more powerful antiseptic than carbolic acid. It has no odor, and an alcoholic solution of 1 to 300 is soluble in all proportions in warm water. Lister's dressing is expensive, and not adapted for use in armies. Since 1885, he has employed exclusively the biniodide with dressings of cotton and gauze, and in 108 operations (32 major) had only one death.

Mr. David Webster,⁴ in the *International Journal of Surgery*, October, 1888, states that the use of bichloride of mercury solutions in ophthalmic surgery has been abandoned at the Manhattan Eye and Ear Hospital, on account of corneal opacities following a certain number of cataract operations wherein those solutions were employed. The surgeon of the Royal Ophthalmic Hospital, about the same time, reported a similar experience. In March last he gave up the bichloride in surgical cases having corneal relations, and now uses Panas' fluid in all iridectomies and cataract extractions. The formula for this fluid is: biniodide of mercury, 1 part; absolute alcohol, 400 parts; pure water, 20,000 parts. The results under this plan have been unusually satisfactory.

In the number of the *Medical News* of June 16, 1888, is a copy of an article from the *Lancet* of

¹ New York Medical Record.

² New York Medical Journal.

³ The Medical News, Philadelphia, December, 1888.

⁴ New York Medical Record.

May 12, 1888, on "A New Antiseptic Soap," which states that, until quite recently a satisfactory soap containing as an antiseptic one of the salts of mercury, has been difficult to prepare on account of the alkaline soap refusing to yield a good lather, oleate of mercury being formed—a compound which has little or no germicidal action. One of the most powerful antiseptics of the mercury salts is, as is well known, the bichloride. Moreover, it is cheap, and easily soluble, but it has the disadvantage of being extremely poisonous, and easily reduced by albuminoid matter with which it combines, thus being rendered inactive. In a paper recently read before the Society of Chemical Industry, in Glasgow, by John Thomson, the solubility of the red biniodide of mercury (which is claimed to be even a more powerful antiseptic than the bichloride) in iodide of potassium has been made use of. It is stated to be permanent, having no tendency to separate, and to be more germicidal in its properties than any other antiseptic soap yet known. Experiments were made to demonstrate this. Sterilized silk threads were suspended in a solution of the biniodide soap for ten minutes, after being saturated with solutions containing well-known microorganisms, amongst which were the streptococcus scarlatinae (Klein), bacillus subtilis, orange sarcina, white bacillus from Tweed water, organisms from putrid urine, the micrococcus of osteo-myelitis, aspergillus nigrescens, spores from various fungi, yellow micrococcus from pus, putrefactive organisms, bacterium termo, and bacillus scarlatinae (Edington). The threads were then carefully washed to remove the soap, and placed in sterilized gelatine in the ordinary way. The threads were controlled by first sterilizing and then plunging into nutrient gelatine; if no growth occurred, they were accepted as being fit for use in the experiment. Washing the threads previously contaminated with organisms, two or three times carefully with distilled water, was shown, by experiment, not to remove the organisms; for, on being placed in the gelatine, growth readily took place. The results, as shown in tables, are very remarkable. In all the experiments, with a few very uncertain exceptions, growth of the organisms was completely prevented, even after the lapse of four days. Similar experiments, made with "carbolate of mercury" soap, showed it to be less powerful as a disinfectant, and much slower in its germicidal action. In experiments carried out in the same manner with antiseptic and ordinary soaps, it was shown that the growth of the organisms, in many cases, was not prevented. The importance of such a soap in medical and sanitary science is very obvious. The biniodide soap has been used in the treatment of eczema with well marked success, especially where the irritation is due to the fermentations

of accumulated secretions, the fermentations being set up by microorganisms. It has also met with similar success when used in parasitic skin diseases, such as favus and ring-worm. As a parasiticide, too, the importance of its application to patients during the period of desquamation in scarlet fever is evident.

The interesting experiments, and the careful manner in which they were carried out, are my excuse for giving the above notes in full. They more than corroborate my opinion of the value of biniodide of mercury as an antiseptic.

As will be seen by the title of my present paper, I have embraced a larger scope than in my two previous papers, which were entirely of obstetrical cases. I have divided my paper: First, history of obstetrical cases; second, history of abdominal abscess intercurrent with typhoid fever; third, surgical cases; fourth, application of the biniodide of mercury wool to the chest in pulmonary troubles; fifth, as a disinfectant in the discharges (alvine) of typhoid fever.

(To be concluded.)

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Meeting of the New York County Medical Association—A Paper on Diphtheria by Dr. J. Lewis Smith—Its Etiology—Mode of Propagation—The Specific Cause received chiefly by Inhalation with the Air—Capability of being Communicated from Man to Animals and the Reverse—Means of Prevention by different Modes of Disinfection, etc.

At the last meeting of the New York County Medical Association Dr. J. Lewis Smith read a paper on *The Cause, Mode of Propagation, and Prevention of Diphtheria*. Stating that, although the belief that this disease is of microbic origin is constantly being strengthened by the investigations made in regard to it, it is still a matter of doubt what microbe (or possibly microbes), is the causal agent, he first gave an admirable résumé of the bacteriology of the subject, as developed by various observers during the last twenty years. It was, he said, the conclusions of Drs. Curtis and Satterthwaite, based on their investigations made in 1877 under the auspices of the New York Board of Health, on the etiology and pathology of diphtheria, that evidently prepared the way for the theory that the bacteria themselves are not the direct cause of the disease, but that ptomaines produced by their agency may be. In his most recent utterances Oertel expressed the opinion that, while bacterial organisms gave rise to diphtheria, they did so not by their direct action, but by producing a ptomaine which infects the system

and causes the disease to become constitutional. The microbe itself was mostly confined to the surface, where the action of the virus is widespread and deep. The most eminent pathologists of the present time, said Dr. Smith, do not express any more positive opinions in reference to the action of the specific principle or germ of diphtheria. In the earliest formed membranes Oertel found that many kinds of microbes could be isolated, but practically there are two chief kinds: chain-forming cocci (the streptococcus), and rod-shaped bacteria with rounded extremities (bacilli). In a pseudo-membrane of twelve hours' continuance micrococci abounded mostly on the surface, but in the fibrinous network the bacilli, often in colonies, preponderated. In a specimen of twenty-four hours' duration the upper surface was full of cocci, and below them were bacilli. In concluding this portion of the subject Dr. Smith stated that during the past year Dr. T. Mitchell Prudden, one of the most skilled and trustworthy of our pathologists, has been making a series of careful investigations, the results of which will shortly be published in the *American Journal of the Medical Sciences*, which seem to indicate the strong probability that the specific microbe of diphtheria is a streptococcus.

In treating of its mode of propagation, he said that no fact was better established than that diphtheria does not arise *de novo*. Like eruptive fevers, it is produced by the reception in or upon some part of the system of the preëxisting specific poison. The extreme contagiousness of diphtheria from person to person is well known, and the virus adheres tenaciously to objects on which it happens to alight. The clothing of a patient, even when the disease is of the mildest form, his bedding, the furniture of his room, and the objects which he handles, may for weeks afterward communicate the disease. Dr. Sternberg, in his recent Lomb Prize Essay, also mentions the fact that all damp, foul places, such as sewers, cellars and ill-ventilated spaces under floors, afford conditions favorable for the development and propagation of the diphtheritic virus. The virus, once received, may be propagated in such a place for an indefinite time and, ascending in the vapors which arise from this culture-bed, it is liable to communicate the disease to any one who inhales it. Thus, in New York City, prior to 1850, although foul sewers and unsanitary conditions existed, there was no diphtheria; but in the decade following 1850 this disease was introduced. The germ made its way into the sewers under ground, and now wherever sewer-gas escapes into the domiciles of the city it carries with it the diphtheritic poison. The amazing vitality and power of propagation of this virus are apparent when we reflect that it has permanently infected the New York sewers; so that children in all parts of the city are constantly falling ill with the disease. It is

chiefly by exposure to the emanations from this widely extending culture-bed and to walking cases, often so mild that there is little or no complaint of the throat or impairment of the general health, that diphtheria is so prevalent here. The diphtheritic virus is so subtle, and its vitality and power of propagation so great, that when it is once established in a sewered city the disease can probably never be stamped out, as cholera and yellow fever can.

Diphtheria is commonly communicated by the inhalation of air containing its specific principle, from whatever source the latter may be derived. More rarely the contagion is contracted by means of direct contact with some infected substance, such as a particle of the diphtheritic exudate, mucopurulent secretion from an infected surface, or the blood of a patient. Observations are also accumulating which show that diphtheria, or a disease closely resembling it, occurs among animals, and is sometimes communicated from them to man. Having mentioned several recorded instances of this, he spoke of experiments by different observers which would seem to show that diphtheria can be transmitted from man to animals, and stated that if this were true, it might be inferred that it could likewise be transmitted from animals to man. Such observations and experiments, he went on to say, render it probable that genuine diphtheria, equally fatal, and attended by the same symptoms and anatomical characters as in man, does occur in birds, whether wild or domesticated, and in certain quadrupeds, as the rabbit. Nevertheless, it should be added that certain eminent pathologists, among them Virchow, have doubted the identity of animal and human diphtheria. With our present light upon the subject, he thought it was evident that, since our relations to domestic animals are so close, if they are sick with any disease resembling diphtheria the same precautionary measures should be taken to prevent infection of the family as in human diphtheria. Having stated that milk was a culture medium of various microbes, and that it was probable that it may be the medium of communication of diphtheria, as well as of scarlet fever, Dr. Smith referred to several instances of such apparent communication observed by different writers.

In concluding this portion of the subject he said that the fact that diphtheritic virus may be conveyed long distances without losing its power is now admitted from the many observations that have been made, and the statistics given by Prof. C. W. Earle, of Chicago, in his paper on this subject before the Ninth International Medical Congress, render it probable that the infection is not infrequently transmitted over long distances to salubrious rural localities by means of articles of clothing and merchandise.

In speaking of the prevention of diphtheria he

said that, as regards the small extent of the area of its contagiousness and the persistence and highly infective character of its virus within that area, this disease resembles scarlet fever, and is unlike measles and pertussis, the specific principles of which, although they have a wider contagious area, are more volatile and more quickly dissipated. The most efficient method of preventing the propagation of diphtheria, he went on to say, is the isolation and disinfection of patients, the prompt and thorough disinfection of the apartments occupied by them, with their furniture and bedding, and the exclusion or prevention of all noxious germs. He thought there was reason to believe that disinfection, as commonly practiced, is inadequate, and in this connection he referred to the outbreak of diphtheria in the spring of 1888, which he described in full in the paper on "Diphtheria of the New-born," which he read in May last before the Fifth District Branch of the New York State Medical Association. Here, it will be remembered, the ward was carefully fumigated with the dry vapor of burning sulphur, and after the fumigations there were found in the apartment quantities of living bacteria which were identical with those found in connection with diphtheritic cases previously treated there.

As bearing on this result he read an interesting communication from Dr. E. R. Squibb, the eminent chemist, of Brooklyn, sent in compliance with a request for his opinion; in which the latter stated that in our present state of knowledge all that could be said in regard to sulphur fumigation against infectious material was that it is of doubtful efficacy, with the weight of the highest authorities in bacteriology against it. But to this it must be added that it is still largely used by very intelligent bodies in large institutions, health-boards, etc., where it would not be likely to long maintain an unearned confidence. Dr. Squibb believed that many of the recent failures with sulphur fumigation might perhaps be due to the fact that the fumes were applied dry, while formerly the surfaces of the apartment to be disinfected were all wetted and the pot of burning sulphur was set in water or wet sand, in order that the heat might evaporate off a constant supply of watery vapor. Most, if not all, chemical disinfectants were in a state of tension, ready to change on coming in contact with the matter to which they were applied, and these changes were either by oxidation or di-oxidation; while the moment of greatest power or activity was the moment of change, when, by reacting on infectious matter they passed from a state of tension to a state of rest under new relations. The agency through which these changes almost invariably became operative was the vapor of water. Having explained the chemical reactions which took place when sulphur was burned in a moist atmosphere said that if no moisture was supplied that present in the air

and on the surfaces of the chamber would soon be used up, and the dry gas remain in a comparatively inactive, inefficient condition. The anhydride would necessarily destroy all organisms which breathed in any degree, because breathing surfaces were moist. But in embryonic life protected by shell if the shell were dry the gas would be impotent. Many bacteriologists had admitted that burning sulphur would kill bacteria, but not germs.

Having mentioned that Dr. Llewellyn Eliot had recommended during the continuance of a case of diphtheria the constant evaporation of turpentine over a water bath for the purpose of destroying the virus of the disease, Dr. Smith said that he had himself employed the following prescription for disinfection during his attendance on cases with apparently such good results that he felt encouraged to continue its use:

R

Acid. carbolic	
Ol. eucalypti aa	f 5j
Spts. terebinth.	f 5j

℞

Of this, two tablespoonfuls are added to one quart of water, and the mixture placed in a shallow pan. It is to be maintained in a constant state of simmering in the room occupied by the patient.

He next prescribed the disinfection carried out some years ago by Prof. R. Ogden Doremus in the wards of Bellevue Hospital, where pyæmia had been prevalent, by means of chlorine gas, freshly set free; and then went on to say that diphtheria would continue to spread and largely increase the aggregate of deaths unless stringent measures were employed to prevent its propagation by mild walking cases. He saw no way of doing this except by enforced inspection and surveillance of children by parents, nurses and teachers; and he thought that wherever diphtheria was at all prevalent children who had the least sore throat should be excluded from the schools and compelled to remain at home.

In order to adopt adequate preventive measures the fact should also be recognized that third persons who have had no diphtheritic symptoms themselves and infected apparel or furniture may be the medium of communication. After recurring to several recorded instances of this kind, he said that nurses and physicians attending diphtheritic patients should avoid as far as possible the infection of their persons and clothing. Physicians in examining the fauces of children with diphtheria were very liable to receive upon their faces or clothes particles of the pseudo-membrane or infected muco-pus ejected by the violent cough excited by the examination. This might to a considerable extent be avoided by standing one side during the examination, but he himself constantly carried corrosive sublimate with him;

washing his face and hair with a solution of it before leaving the apartment if he suspected that he had received any particle of the infectious material upon his person. Physicians thus exposed should also make use of precautionary measures before going to visit other children.

In conclusion, he referred to the paper read by Dr. H. Caillé, before the New York Academy of Medicine, in January, 1888, on the prevention of diphtheria, in which he stated that occasionally children had a recurrence of diphtheria each spring or autumn. Thinking that such children might perhaps harbor or carry with them the germ of the disease, he selected eight children having a permanent residence who had had repeated attacks of diphtheria, and subjected them to prophylactic treatment. All carious teeth were extracted or filled, and the mouth was rinsed after each meal with a solution of potassium chlorate, sodium chlorate, or sodium borate. The solution was also gargled or drawn through the nostrils. With this treatment the children had escaped the customary diphtheritic attacks during the two years that had elapsed since it was undertaken.

P. B. P.

LETTER FROM BOSTON.

(FROM OUR OWN CORRESPONDENT.)

Twentieth Anniversary of the Dental School of Harvard University.

At Huntington Hall, on March 11, were held exercises commemorating the twentieth anniversary of the Harvard Dental School. A large audience, composed of the alumni and their friends, many of whom were ladies, was present, and was much interested in the literary exercises. Chas. W. Elliot, LL.D., the President of Harvard University, presided in his usual easy and attractive manner, and in his brief words of welcome said that they had come together to felicitate the school and themselves on the work which the school had accomplished in the past twenty years. The school had some trials at its birth. The real difference of opinion was as to whether a dentist should be first educated in medicine and then adopt dentistry as a specialty, or whether a special school should be established for the sole education of dentists. Within the twenty years of the life of this school, there has been a wonderful change in medical education. When this school was founded, a medical student was required to pass four months of the winter three times, in attending precisely the same course of medical lectures. Now a medical student is required to pass three years or four, in the study of medicine, and it is true that the dental student of to-day passes as much time in medical study on his way to the dental degree, as the medical student did twenty years ago on his way to the medical degree. I

believe that the Dental Department of Harvard University was the first one to be established in connection with a university of the liberal arts and the learned profession. This example has been followed by other universities, as, for example, the Universities of Pennsylvania, Michigan, Iowa and California. There is here a recognition of the worth and dignity of the calling which, twenty years ago, was lacking. We have also to rejoice together that the dental department of Harvard University has sent into the community a goodly number of highly trained and skillful men. Its instructions have been widely diffused not only over this country, but over Europe as well. The Dental School has more foreign students than all the other departments of the University put together, and these men have returned to their native countries, carrying with them the education of the Harvard Dental School. We believe that we have done good far beyond the limits of our own country.

In his address on the "*Twentieth Anniversary and History of the Dental School*," L. D. Shepard, D.M.D., who was for many years connected with the school, first as Adjunct Professor and then as Professor in the department of Operative Dentistry, said: Twenty years ago but one school, our own, had any connection with a classical University. Now eighteen claim a more or less intimate connection with universities, and five with medical colleges, leaving seven, the same number as twenty years ago, distinctively dental colleges. To-day no college is considered respectable, or its diplomas recognized by the Examining Boards of the States, which graduates a man, no matter how many years of practice he may claim, except after actual attendance upon two courses of lectures in separate years. In important advances, our institution has generally been a leader and always has warmly seconded any advance proposed by another school.

In narrating the history of the origin of the School Dr. Shepard said that the annual address of the Massachusetts Dental Society, in 1865, was delivered by its President, the late Dr. Nathan Cooley Keep, and in accordance with his suggestions, a committee from the Society conferred with a committee from the Medical Faculty. The corporation of Harvard College, after full investigation of the reports, voted, on July 17, 1867, to establish the Dental School, and that the Faculty consist of the Professors of Anatomy, Physiology, Chemistry, and Surgery, in the Medical School; and of three new Professors, of Dental Pathology and Therapeutics, Operative Dentistry, and Mechanical Dentistry. In this vote the Board of Overseers afterwards concurred.

The spirit of that first Faculty was shown at the very commencement, for it decided that the Dental School of Harvard University should rank right and justice above expediency, should re-

quire only that a student should be a man of good moral character, and know no distinction of nativity or color, and among the six who twenty years ago received the dental doctorate, Robert Tanner Freeman was the peer of any as a student and a gentleman. His name stands to-day upon our records and will remain in history as the first of his race to receive dental collegiate honors.

At a Faculty meeting on Feb. 16, 1869, it was "Voted that *Dentariæ Medicinæ Doctor* [D.M.D.] be recommended to the Board of Government of Harvard University as the title for the degree to be conferred upon the graduates of the dental department." And on Feb. 27, 1869, the Corporation established this degree. There was no thought of arrogating to ourselves any special superiority or claim of exclusiveness. Further it was expected that the new degree would approve itself to other universities, which might have dental departments, and thus gradually become the accepted degree. That such has not been the result is no fault of ours. On March 6, 1869, was held at the old Medical College the examination of candidates for the degree. On March 10th occurred the Commencement. Professor Edward H. Clark, M.D., delivered the Address, and Professor Henry J. Bigelow, M.D., conferred the degrees upon the six successful candidates. We have met to-day to celebrate the quiet and modest exercises which took place twenty years ago in that old historic building.

In the Fall of 1871, upon the recommendation of the Faculty, the Corporation voted to abolish the custom, which was universal with the dental colleges, of allowing a practice of five years to be equivalent to the first course of study and the graduation of students after attending one course at the school. This was the most important innovation ever made in its good influence upon the profession and the colleges. It was equally important in its disastrous effect, pecuniarily considered, upon the School. The Faculty considered that this custom had been a great hindrance to progress. The Harvard School was the first, and for many years the only one, to enunciate the truth, and at great expense to itself that the college was designed to educate the young incomers to the profession, and not simply to supply the doctorate to the more or less skilled handiworkers who had practiced without a degree for five or more years. Boldly living up to its convictions it maintained unassisted for years this higher standard, and thus cut itself off from the support of a very large class of practitioners throughout New England who, having no degree and wishing one, would otherwise have attended its instruction and have been enrolled among its alumni.

In the winter of 1872 written examinations were substituted for oral, and the candidate was required to pass successfully in each subject instead of a majority of them, as had been the cus-

tom. The Harvard School was the first to recognize that the ordinary terms of study and discipline were too short to prepare the student properly for practice, and a summer course of four months immediately following the winter session was established. The summer school was a success and the idea was soon imitated by nearly all of the schools of the country.

On March 1, 1875, an entire change in the curriculum was made and the new scheme embraced

1. A consolidation of the winter session and the hitherto optional summer session into one school year extending from the last of September to the first of June.

2. A progressive course of instruction, extending over two years, the teaching of one year not being repeated in the next.

3. An examination at the end of the first year in anatomy, including dissection, physiology and general chemistry. Unless the student successfully passed two of these he could not be admitted to the studies of the second year.

4. At the end of the second year an examination in dental pathology, dental materia medica and therapeutics, oral surgery, and surgical pathology, operative and mechanical dentistry.

5. All the examinations to be conducted in writing.

6. The candidates must have passed a satisfactory examination in all of the above mentioned subjects.

This scheme has been in operation ever since, but few slight modifications from time to time having been considered necessary. It has resulted in securing fine scholarships and excellent skill. The entrance examination was not originated by the Harvard Dental School, and it was adopted by us, not from a feeling of its need, but because it seemed a good rule for all dental colleges. Harvard has never been selected by the ignorant any more than by the indolent. The Faculty have preferred to maintain this higher course rather than lower the standard to secure more students. The true principle was aptly expressed by President Eliot in one of his annual reports: "The University should be more concerned to have a very good school than a very large one." There are now sixty of its graduates occupying prominent positions in Boston alone. This School and that of the University of Michigan, founded in 1875 upon the same plan, received, without solicitation or knowledge beforehand, a distinguished mark of approbation from the General Medical Council of Great Britain. Of all the American Dental Colleges, their diplomas only exempt the holders from examination for registration and license to practice in Great Britain.

At the conclusion of the Address, Rev. Alexander McKenzie, D.D., who for fourteen years has been Secretary of the Board of Overseers of Harvard College, was introduced to speak on the

"*Relation of the University to the Professional Schools.*" He said that the schools are essentially part of the university which sends its blood and life through the world and shares its name and honor. It is a governmental relationship; for the schools are under the charter and statutes and authorities of the university. It is therefore a nourishing relation, the university is to care for the schools. The method of the bestowal must depend on what theologians call "distributive justice," which provides that every one connected with the system be treated according to his deserts and in relation to the great ends of the system, but it must see that no department gets anything that does not belong to it. The university has the strongest desire to advance the dental school, but its treasury has not the money which can be given to the school. The dental school must have money of its own. The record of the school is most creditable and its influence is felt throughout the world. It has forty-two students and eleven professors, and a fund of only \$2,150, being dependent on the fees received from students for running expenses.

"*The Needs of the Dental School*" were set forth by Thomas H. Chandler, D.M.D., Dean of the School for the past fourteen years, who said: We may say briefly that the School lacks everything except zealous and competent instructors and devoted alumni. In our efforts to accomplish the work we have undertaken, we have been hampered and pinched on every side for twenty years. This work is the improvement of dental education by raising its standard, and the consequent elevation of the profession of Dentistry. A dental school should have a building specially adapted to its purposes, with large and well lighted operating-rooms and laboratories fitted with every necessary appliance, pleasant and comfortable lecture-rooms, clean and light reception-rooms for the patients who throng to it for treatment, suitable dressing-rooms, and whatever else can be devised for the comfort and convenience of its instructors, students and patients, not forgetting a well stored professional library and a good cabinet.

The Harvard Dental School, through the charity of the Medical School, has the use of a part of the old Medical building on North Grove Street. The operating-room is a large square room, well lighted near the windows, but unsuited near the middle for the delicate manipulations of tooth filling. This room is also used for a lecture room. The laboratory is in the basement, low, poorly lighted and inconvenient. We need a good building. We never shall be able to build one for ourselves; for our only resources are the fees received from the students, and if the amount of these fees exceeds in any year the running expenses, the surplus goes toward paying off our debt to the University treasury, a debt which exceeds by several thousand dollars all our assets.

Secondly, we need a fund for salaries, in order that the School may have a reasonably permanent corps of instructors in operative and mechanical dentistry, and may not lose year after year its trained teachers just when experience has made them doubly valuable. Professors and instructors should be paid. It is only in quite recent years that salaries have been paid to any teachers, except the demonstrators, who gave to the School the whole of their working time. Even now, the highest salary paid to a Professor is \$500 a year, while a lecturer is paid only \$100, and a clinical instructor only \$50 a year. As soon as an instructor's time becomes decidedly valuable for private practice, a struggle begins between his love of teaching and his interest in the School on the one hand, and his sense of obligation to make the most profitable use of his time on the other. The result of this struggle generally is that after a few years the School loses an experienced instructor. The remedy for this evil is, of course, larger salaries.

Thirdly, the Infirmary needs a fund for its support. It is a charity which relieves much excruciating pain and prevents more. The community does not expect physicians and surgeons to maintain at their own expense hospitals for the sick and wounded. On the contrary, it gives great endowments and levies taxes to support such hospitals. It should also support a dental hospital.

The literary exercises were followed by a banquet at which were Governor Ames, with many officers of the University, members of the Dental and Medical Faculties and their friends, numbering considerably over a hundred. x.

Pregnancy, with Accidental Hæmorrhage: Difficult to Control and Difficult in the Diagnosis.

Dear Sir:—The following case seems to me to be of special interest:

Mrs. P., æt. 30 years, mother of five children and had had three miscarriages. Her mother died of disease of some one of the abdominal organs. Mrs. P. had her last monthly period the latter part of last July. On September 24, whilst sitting in a carriage watching a procession passing by, she was taken suddenly with uterine hæmorrhage and was carried into a drug store in a fainting condition. On November 20 she had recurrence of the hæmorrhage, and also on December 21. I saw her first on November 20. On December 29 she had another hæmorrhage. At this time she took to her bed and remained there. The hæmorrhage never afterwards totally ceased. January 1, 1889, patient had profuse hæmorrhage; also January 16 and 21. On the morning of January 23 I tamponed in order to stop hæmorrhage. From this time on to February 14 there was con-

stant oozing of blood. The patient became very weak and exsanguinated. The uterus was of abnormal size and very hard in the left hypogastric region; especially was this so the last month of her pregnancy. The os was that of a pregnant woman, but it was high up and difficult to reach with the index finger. If this be a case of pregnancy, where does the hæmorrhage come from? Is it a case of placenta prævia? If not a case of pregnancy, is it a case of fibroid tumor? Is it hydatids? or is it epithelioma? I could not hear the foetal heart, neither could I, from palpation, make out pregnancy. I was in doubt till the pains came on at 6 A.M. February 14, and ceased at 2 P.M., dilating the os as large as a silver dollar, when I was first enabled to make a positive diagnosis of pregnancy. On February 16, at 1 A.M., the pains recommenced, and at 4.20 A.M. the liq. amnii sac enveloping a five to six mo. *in utero* child was born, which presented an egg-like appearance. The membranes contained no liquid and were tough and difficult to tear to expose the fœtus. The child was dead. The placenta was on the heel of this egg-like tumor, and showed unmistakable evidence of previously for some time having been about one-third part separated from the walls of the uterus. The treatment consisted of small and repeated doses of ergot; except when profuse hæmorrhage occurred large doses of this drug were given.

The child measured $13\frac{1}{2}$ inches; that is, 7 inches from the crown of the head to the umbilicus, and $6\frac{1}{2}$ inches from the umbilicus to the soles of the feet. Mrs. P. has now fully recovered.

JOHN M. BATTEN, M.D.

309 Fifth Ave., Pittsburgh, Pa., March 9, 1889.

BOOK REVIEWS.

RECTAL AND ANAL SURGERY; with Description of the Secret Methods of the Itinerant Specialists. By EDMUND ANDREWS, M.D., LL.D., Professor of Clinical Surgery in the Chicago Medical College and the Mercy Hospital, etc., and EDWARD WYLLYS ANDREWS, A.M., M.D., Professor of Clinical Surgery in Chicago Medical College and the Mercy Hospital. Second Edition Revised and Enlarged, with Illustrations and Formulary. Chicago: W. T. Keener. 1889.

It is but a short time since we noticed in these columns the peculiar merits of the first edition of this work. The fact that a second edition has been called for so soon is proof that its merits have been appreciated by the profession. The present edition is published in good style and the additions to the text are valuable; making it one of the best practical monographs on the subjects of which it treats, with which we are acquainted.

MISCELLANY.

MEDICAL GRADUATES.—Following are the numbers of graduates of medical colleges that have recently closed their sessions: Bellevue Hospital Medical College, 138; Long Island College Hospital, 47; University of Kansas City, 15; Medical Department of Arkansas Industrial University, 17; Kansas City Medical College, 18; Woman's Medical College of Pennsylvania, 36; University of Kansas City, Medical Department, 15; Miami Medical College, 22 (not 12 as stated); Chicago Medical College, 45; Toledo Medical College, 8; University of the City of New York, 180.

NUT-SHELL IN THE TRACHEA.—A piece of nut-shell, a third of an inch long and nearly that at its widest part, with one very sharp point, was coughed up by a 4-year old patient of Dr. H. Swift, of Adelaide, Australia, after being in the trachea fifty-two days. Tracheotomy had been done and the child had scarlet fever in the meantime, but made a good recovery. The case is reported in the *Australasian Medical Gazette* for December. The chief point of interest is stated by Dr. Swift to be the length of time the foreign body was retained without giving rise to any serious complication such as deep ulceration, abscess, collapse of lung or pneumonia.

THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS will hold its annual meeting at St. Louis, Mo., on Thursday and Friday, May the 2d and 3d, 1889. The prospects are that this will be one among the largest gatherings of medical men ever assembled in this country. Dr. W. B. Outten, of St. Louis, is the Chairman of the Committee of Arrangements, and everything will be complete for the accommodation of the surgeons. Any information desired can be had by addressing the Secretary, C. B. Stemen, M.D., Fort Wayne, Ind.

THE *Memphis Journal of Medical Sciences* is a new monthly journal, edited by Drs. Alexander Erskine, B. G. Henning, T. J. Crofford, S. A. Rogers, W. B. Rogers, and James L. Minor.

At the Centennial Celebration of Georgetown University Washington, D. C., last month, the degree of LL.D. was conferred upon Dr. John B. Hamilton, Surgeon-General Marine-Hospital Service.

AUSTRALIAN RABBITS.—The Commission appointed to report on the means for arresting the multiplication of rabbits in Australia has reported that the experiments made under the direction of Pasteur, with the virus of chicken cholera, are an entire failure.

BEQUEST TO DENVER MEDICAL COLLEGE.—Mr. Jacob Haish, of DeKalb, Illinois, has recently given \$15,000 to the medical department of the University of Denver, which makes a total of \$40,000 that Mr. Haish has given to the University.

HEALTH IN MICHIGAN, MARCH, 1889.—For the month of March, 1889, compared with the preceding month the reports indicate that influenza and pleuritis increased and that scarlet fever decreased in prevalence.

Compared with the preceding month the temperature in the month of March, 1889, was much higher, the absolute humidity was more, the relative humidity and the night ozone were less, and the day ozone was the same.

Compared with the average in the month of March, in the three years, 1886-88, measles, intermittent fever, tonsillitis, inflammation of bowels, consumption of lungs and rheumatism were less prevalent in March, 1889.

For the month of March, 1889, compared with the average of corresponding months in the three years 1886-'88, the temperature was considerably higher, the absolute

humidity was slightly more, the relative humidity was less and the day and the night ozone were slightly more.

Including reports by regular observers and others, diphtheria was reported present in Michigan in the month of March, 1889, at 29 places, scarlet fever at 32 places, typhoid fever at 8 places, measles at 12 places, and small-pox at 5 places.

Reports from all sources show diphtheria reported at 2 places less, scarlet fever at 20 places less, typhoid fever at 3 places less, measles at 5 places more, and small-pox at 5 places less in the month of March, 1889, than in the preceding month.

CLAIRVOYANT "PHYSICIANS."—The opinion of the Supreme Court of Wisconsin, by Lyon, J., holding that a clairvoyant physician is liable for failure to exercise the ordinary skill and knowledge of a physician in good standing, practicing in the vicinity, and not merely to the ordinary skill and knowledge of clairvoyants. If he holds himself out as a medical expert and accepts employment as a healer of diseases, but relies for diagnosis and remedies upon some occult influence exerted upon him, or some mental intuition received by him when in an abnormal condition, he takes the risk of the quality of accuracy of such influence or intuition. There are so many persons now who assume to act as physicians and take the lives of people in their hands that this decision holding them to a strict liability may perhaps be timely.—*Legal News*.

AN ARMY MEDICAL BOARD will be in session in New York City, N. Y., from May 1 to 31, 1889, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board will make application for the necessary invitation to the Secretary of War, before May 1, 1889, stating the place of birth, place and State of permanent residence, and enclosing certificates based on personal knowledge from at least two persons of repute, as to American citizenship, character and moral habits. Testimonials as to professional standing, from professors of the medical college from which the applicant graduated, and of service in hospital from the authorities thereof, are also desirable. The candidate must be between 21 and 28 years of age, and a graduate from a *Regular Medical College*, evidence of which, his Diploma, must be submitted to the Board.

Further information regarding the examinations and their nature may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

JNO. MOORE, Surgeon-General U. S. Army,
Surgeon-General's Office, Washington, D. C., April 1, 1889.

THE DISTRICT MEDICAL SOCIETY OF CENTRAL ILLINOIS will hold its annual meeting in Pana, April 30, 1889. Reports on Surgery, Obstetrics and Practice of Medicine will be read, and several papers on important subjects are promised. President, Jacob Huber, M.D., Pana; and Secretary, J. H. Miller, M.D., Oconee, Ill.

VACCINATION.—That obtuse fraction of the community which prides itself upon blind opposition to vaccination might be moved to a more liberal attitude on the subject if it would condescend to look into the results that have been reached under its practical application. In Paris, for instance, where the law requiring vaccination is feebly enforced, the mortality from small-pox ranges from 136 to 10.1 to the 100,000 inhabitants, while in the principal German cities, where the vaccination laws are rigidly enforced, the death-rate is but 1.44 to the 100,000 inhabitants. London, under compulsory vaccination, has a death-rate from small-pox of but 0.6 to the 100,000 inhabitants. On the other hand, in the Canton of Zurich, in Switzerland, since the compulsory vaccination law

was repealed in 1883, the death-rate from small-pox has risen steadily from 8 to 85 to the 100,000 inhabitants.—*American Analyst*.

NECROLOGICAL.—Dr. A. M. Orcutt, of Hardwick, Mass., died February 11, 1889, aged 65 years. He graduated from the College of Physicians and Surgeons, Columbia College, New York, in 1849, commenced the practice of medicine soon after in Hardwick, and in October, 1850, married Mary, the daughter of Theophilus Knight, who still survives him with three daughters. Dr. Orcutt possessed superior native ability and a thorough knowledge of his profession, and enjoyed an extensive medical practice for nearly forty years. He had the confidence and esteem of all classes of the community and equally of his professional brethren. He was honored with various local offices, and served as Representative in the Legislature of the State in 1874. He became a member of the American Medical Association in 1884.

LEPROSY IN INDIA.—Under a call from the home Government, made in view of the possibility of more efficient measures by the State for the prevention and treatment of leprosy in India, the local authorities have furnished returns from which is gleaned the following information: In 1881, according to the census of that year, there were in India 131,618 lepers, of whom 98,982 were men and boys, and 32,636, not quite one-third, were women and girls. It is doubtful, however, if these figures represent the whole number, as many of these miserable creatures are secreted by friends. Of this great army of lepers about nine-tenths prefer local charity to organized relief, and resent even the slight restraints to which they are subjected in institutions devoted to their treatment, and avoid them in every possible way. As the disease can be stamped out only by the complete segregation of sexes and the life confinement of all tainted with it (measures so repugnant to the Hindoos as to be considered entirely impracticable), about all the Government can do for these poor wretches is to grant medical assistance and relief in voluntary hospitals and asylums, knowing that any relief can prove only temporary, and that even that cannot always be given.—*New York Evangelist*.

A WOMAN in Edinburgh, Scotland, is pregnant at the age of 62, it being her twenty-third time. She was also pregnant at the ages of 47, 49, 51, 53, 56 and 60. The case is attracting much attention from the physicians of that place, as it is a rare one.—*Wes. Med. Rep.*

ALUM IN BREAD.—Professor J. W. Mallet, of the University of Virginia, has been pursuing an interesting course of investigations into the effects produced by the use of alum in bread, and has found that, as has long been assumed, it is injurious. In the United States the greater part of the baking powders sold, it has been found, are made with alum, the acid phosphate of calcium, bicarbonate of soda and starch. The result of Professor Mallet's inquiry, as given in the *Pharmaceutical Journal*, has been to show that these powders give off very varying proportions of carbonic acid gas, and therefore different proportions have to be used for the same quantity of flour to produce the requisite porosity in bread. When moistened with water they yield small quantities of aluminum and calcium salts in a soluble form. Most of them leave, after use, the greater part of their alumina in the form of phosphate; but when acid phosphate of calcium is not used alumina is left. As the baking temperature in the interior of bread does not exceed 212° F., neither the water of combination of alumina or of its phosphate is removed from the residues of baking powder so used. However, in doses not very greatly exceeding such quantities as may be derived from bread as commonly used, Professor Mallet has found that hydrate and phosphate of alumina produced an inhibitory effect upon gastric digestion. He considers that this effect is probably a consequence of the union of albumina with

the acid of the gastric juice, and at the same time of the precipitation of the organic peptic ferment in an insoluble condition like a kind of lake. A similar action may also be exerted by hydrate of alumina upon some of the organic matters of food. From the general nature of the results obtained, it is inferred that not only alum itself is injurious, but that likewise the residues resulting from its use in bread-making must be ranked as objectionable, and that the practice of adding alum should be studiously avoided when the object aimed at is to make wholesome bread.—*British Medical Journal*.

PAMPHLETS RECEIVED.

Bosworth, F. H., M.D., New York City. *On the Relation of the Nasal and Nervotic Factors in the Etiology of Asthma*. Reprint from the New York Medical Journal.

Chisolm, Julian J., M.D., Baltimore, Md. *Eleventh Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital, Baltimore*.

Daly, W. H., M.D., Pittsburgh, Pa. *On some Mild Measures of the Treatment of Intra-nasal Hypertrophies and Inflammations*. Reprint from The Medical and Surgical Reporter.

Gay, George W., M.D., Boston, Mass. *The Comparative Merits of Tracheotomy and Intubation in the Treatment of Croup*. Reprint from The Boston Medical and Surgical Journal.

Peterson, Frederick, M.D., New York City. *Extracts from the Autobiography of Paranoiac*. Reprint from the American Journal of Psychology.

Station List of Officers of the Medical Department and Hospital Stewards of the Hospital Corps, United States Army, March, 1889.

Parrish, Joseph, M.D., Burlington, N. J. *The Medical Jurisprudence of Inebriety*. Reprint from the Journal of Inebriety.

LETTERS RECEIVED.

Dr. Samuel N. Nelson, Boston, Mass.; Dr. C. D. Watson, Ontario, Cal.; John F. Woodward, Richmond, Va.; Physicians', Dentists' and Druggists' Ins. Association, Chicago; American Oxygen Association, New York; Dr. Thos. B. Evans, Baltimore, Md.; American & Continental Sanitas Co., Limited, New York; H. M. Archer, New York; Dr. Wm. H. Martin, Urbana, Ind.; Dr. J. W. Breedlove, Fort Smith, Ark.; Dr. J. H. Dunning, South Bend, Ind.; Dr. W. Skilling, Lonaconing, Md.; Jas. A. Currau & Co., Denver, Col.; Dr. G. S. Gove, East Pasadena, Cal.; National Surgical Institute, Indianapolis, Ind.; Medicinische Monatsschrift, New York; Dr. H. F. Adams, Colton, Cal.; Dr. G. L. Magruder, Washington; Lea Brothers & Co., Philadelphia; H. H. Swearingen, Washington; Dr. John M. Batten, Pittsburgh, Pa.; Rio Chemical Co., St. Louis; S. S. White Dental Mfg. Co., Philadelphia, Pa.; Horlicks' Food Co., Racine, Wis.; Dr. Clark Cook, Fowler, Ind.; Dr. D. Dedolph, St. Paul, Minn.; Dr. H. K. Lathrop, Royal Oak, Mich.; A. Fielden Briggs, Ann Arbor, Mich.; Henry Bernd & Co., St. Louis; Edward O. Robinson, Burlington, Vt.; H. S. Anders, Philadelphia; H. P. Hubbard, Co., New Haven, Conn.; Dr. J. P. Symons, Savannah, Ohio; Dr. John B. Roberts, Philadelphia; Dr. Thos. W. Kay, Baltimore, Md.; A. B. Westfall, Louisville, Ky.; W. H. Siple, University of Va.; Dr. John B. Castle, Burghin, Ky.; Dr. F. J. Weed, Cleveland, Ohio; Dr. W. F. Boygess, Valley Station, Ky.; Wm. H. Johnson, Louisville, Ky.; Dr. J. Chancellor Gilbert, Wessington, Dak.; Dr. A. L. Hummel, Dr. R. J. Duglison, Philadelphia; Dr. W. B. Spencer, San Francisco; G. D. Lummis, Middleton, O.; Dr. J. G. Carpenter, Stanford, Ky.; Dr. R. L. Thompson, St. Louis; Dr. D. W. Coker, Chicago; W. P. Cleary, New York; J. Astier, Paris, France; Dr. J. G. Smith, Canaan, Ala.; Dr. Russell Bayly, New York; Sharp & Dohme, Baltimore, Md.; Dr. John P. Stoddard,

Muskegon, Mich.; C. J. Forbes, Lander, Tex.; Wm. Davis, Philadelphia; I. Halderstein, New York; Dr. C. H. A. Kleinschmidt, O. Swain, R. Middleton, Washington; J. H. Bates, New York; Dr. M. E. Bates, Chicago; Dr. H. R. Storer, Newport, R. I.; S. S. White Dental Mfg. Co., Philadelphia; Dr. Adam H. Wright, Toronto, Ont.; Dr. G. J. Holmes, New Britain, Conn.; Savage & Farnum, Detroit, Mich.; Lillian Dell, Lebanon Springs, N. Y.; R. A. Robinson & Co., Louisville, Ky.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 30, 1889, to April 5, 1889.

C. O. at Los Angeles, Cal., reports the death of Lt.-Col. R. H. Alexander, Surgeon U. S. Army, at 11:50 this morning, March 29, 1889. Telegram.

Lt.-Col. Charles H. Alden, Surgeon U. S. Army, Maj. Henry McElderry, Surgeon U. S. Army, Capt. Washington Matthews, Asst. Surgeon U. S. Army, and Capt. James C. Merrill, Asst. Surgeon U. S. Army, detailed as members of Army Medical Board to meet in New York City, May 1, 1889. Par. 5, S. O. 74, A. G. O., March 30, 1889.

By direction of the Secretary of War, the following changes in the stations and duties of officers of the Medical Department are ordered: Major Joseph R. Gibson, Surgeon, relieved from duty at Ft. Lyon, Col., and ordered to Ft. Sheridan, Ill. Capt. A. H. Appel, Asst. Surgeon, relieved from duty at Ft. Sheridan, Ill., and ordered to duty at Ft. D. A. Russell, Wyo. Capt. George H. Torney, Asst. Surgeon, relieved from duty at Ft. Monroe, Va., and ordered for duty to Ft. Brown, Tex. Capt. Samuel Q. Robinson, Asst. Surgeon, relieved from duty at Ft. Brown, Tex., and ordered to Ft. Hamilton, N. Y., for duty. Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

Asst. Surgeon R. R. Ball, ordered to Ft. Riley, Kan., for duty. S. O. 36, Hdqrs. Dept. of the Missouri.

Asst. Surgeon R. W. Johnson reports departure for Whipple Bks., Ariz. Ter., March 25, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 6, 1889.

P. A. Surgeon E. H. Marsteller, ordered to the U. S. S. "Adams."

E. H. Stitt, of South Carolina, commissioned Asst. Surgeon U. S. N.

M. F. Gates, of Pennsylvania, commissioned Asst. Surgeon U. S. N.

Surgeon J. C. Boyd, detached from the Bureau Med. and Surg. Navy Dept., and ordered to the "Yorktown."

Asst. Surgeon M. F. Gates, ordered to the Navy Yard, Philadelphia.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Four Weeks Ending March 30, 1889.

Surgeon P. H. Bailhache, relieved from duty at Philadelphia, Pa., to assume charge of the Service at San Francisco, Cal. March 28, 1889.

Surgeon H. W. Sawtelle, when relieved at San Francisco, Cal., to assume charge of the Service at Portland, Me. March 28, 1889.

P. A. Surgeon C. E. Banks, when relieved at Portland, Me., to assume charge of the Service at Vineyard Haven, Mass. March 28, 1889.

P. A. Surgeon R. P. M. Ames, when relieved at Vineyard Haven, Mass., to assume temporary charge of the Service at Philadelphia, Pa. March 28, 1889.

Asst. Surgeon G. M. Magruder, when relieved at Louisville, Ky., to proceed to Memphis, Tenn., for temporary duty. March 28, 1889.

Asst. Surgeon J. B. Stoner, to proceed to Pittsburgh, Pa., for temporary duty. March 28, 1889.

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ORIGINAL ARTICLES.

DO MATERNAL IMPRESSIONS AFFECT
THE FŒTUS IN UTERO?

Read before the North Texas Medical Association, Dec. 13, 1888.

BY J. M. FORT, M.D.,
OF PARIS, TEXAS.

We live at a period that will be memorable in the world's history. It is an age of deep and profound thought. An age of unwearied research and investigation; and an age of brilliant discoveries.

All science is achieving grand triumphs, and results that would have confounded and amazed our ancestry of fifty years ago.

Medical science is moving rapidly and grandly forward in this upward and onward march of progress. It is rapidly leaving behind it the dictum of mere opinions and theories which for so many centuries obstructed its progress and misled the minds and wasted the energies of medical men; for, until comparatively a short time ago, theories and speculative opinions were accepted and acted upon by medical men as so many established facts.

It is no easy task to change or alter men's preconceived and long-cherished opinions, but opinions are not always facts, and an opinion unsupported by testimony is but an opinion still. That they are the forerunners of knowledge I admit. They lead the mind far out into the unbounded fields of speculation, seeking to find where truth is hid; but, it is left for experimentation and demonstration, aided by clinical research, reason and analogy to remove the rubbish from off these germs and to expose their hiding places.

Medical science—as all science—“*is the enemy of credulity.*” It challenges reason, invites investigation, stimulates inquiry and welcomes facts, to the end that human life may be prolonged and enriched by health and happiness. It seeks to ennoble, to elevate, and to refine the human race. It seeks to give proper food and shelter, education and raiment, and to inculcate a higher appreciation of health in the physical and intellectual man, and to erect beacons of warning along the dangerous shores of life.

The question which I propose to discuss in this

paper, so far as my investigation and research go, is based solely, and only, upon “opinion or belief,” with an occasional coincidence, unsupported by law or testimony.

“The occasional apparent relation of cause and effect being due in most instances to accidental coincidences, which would be far less frequent if the alleged facts could be obtained prior to instead of subsequent to the birth of the child.”

It is a question which embraces either a widespread error, fraught with human misery and human suffering, a traditional superstition, kept alive, to a great extent, by the medical profession, or it embraces a profound, occult and mysterious law of our being, of which we know nothing, save and except its sad consequences.

The question is: Can the theory of “maternal impressions,” as generally believed and contended for by the great mass of people, and accredited to a considerable extent by learned and scientific physicians, be true?

In other words, can mental impressions or emotions made upon the mind or brain of a pregnant woman, no matter how revolting or disgusting they may be, no matter how horrifying, even if of such a character as to arouse or elicit her feelings to their fullest extent or uttermost depths; or if they be of such a nature as to elicit the tenderest and most sympathetic emotions of her being; or if calculated to excite a keen sense of alarm or fear of impending danger. And if such impressions be made *suddenly, violently*, and should they prove to be lasting in their effects, can these impressions, photographing, as they may, the object or objects making them upon the brain, I say, can they, by or through any known agency, or by any known law, physiological, pathological, or psychological, or by any change which such impressions may make, by nervous shock, in the nutritive element of the blood of the woman, be reproduced in or on the fœtus in utero, or manifest themselves by any abnormality of the fœtus? This is the question. What shall the answer be?

I admit that in a large majority of instances of pregnancy, especially in women of nervous temperaments, the mental faculties act in an exaggerated sphere. They seem to lose for the time being that happy equilibrium and harmony of thought

and action which may have characterized their former lives, and which makes them the charming creatures we know them to be.

The brain does not always give forth a white light, but by perversion the thoughts are made prismatic. They indulge in, or give way to morbid sentiments, and irritable moods, which seem to transform or revolutionize their entire character, passions and prejudices, frequently giving cast to their thoughts and actions. Their desires colored by hopes, or weakened by fears, often warp the judgment and mislead the will. Not infrequently the mind is distorted or, as it were, deformed by morbid apprehensions, and consequently beset with gloomy clouds and dark forebodings of coming evil to themselves or their offspring.

This abnormal mental condition manifests itself in various and frequently in unexpected ways, and when taken in connection with the functional modifications of the nervous system incident to pregnancy, often gives rise to functional disorders of the senses—such as dimness of vision, painfully acute smell, hearing, etc.—as well as to a class of nervous diseases—such as neuralgias, hysteria, vertigo, syncope, and occasionally mania.

As a rule, emotional susceptibility is greatly increased, and a condition of mind, for the most part, exists which readily receives an impression, and as readily perverts, distorts or magnifies it.

These psychical changes and nervous manifestations incident to pregnancy, as every physician knows, are subject to innumerable individual variations.

Now, engraft upon such a mental condition, *if you will*, the belief or opinion that deformity or abnormality to her offspring may result from impressions made upon the mind of the pregnant woman by witnessing certain painful sights or hearing certain distressing sounds, or by permitting the mind to dwell upon certain subjects, especially if of a disagreeable or distressing character, and you most assuredly plant the seeds of gloom and despondency, and give rise to a fearful, yea and a tearful, looking forward to the day of her confinement which such a thought would necessarily and unavoidably produce upon the mind of a sensitive woman.

For permit me to say, that under the most favorable circumstances the pregnant woman looks forward with anxious solicitude to the day and hour when her maternal instincts and motherly yearnings will be gratified. When with feelings *stronger* by far than the *love of life* or the *fear of death* she can clasp in her fond embrace and press to her devoted heart *her own precious babe*, around whom she has already entwined the sweetest, the tenderest, and the most endearing ties and emotions that have ever found lodgment in the human heart.

If, perchance, however, it can be established,

either as a fact or as coming within the realms of probability, that such effects may result from such causes by some mysterious occult law of our being, though inexplicable in the present state of our knowledge, it behooves us as medical men, it behooves husbands, fathers and brothers, it behooves mothers, sisters and friends of the pregnant woman to caution, admonish and to guard her faithfully against every contingency which would even in the most remote degree be calculated to bring about or result in such a sad calamity, for they are the mothers of the race, and when pregnant *woman* appeals to the sympathies, and to the most sacred instincts of our humanity—care for her—be kind and gentle with her, for she is fulfilling a God appointed destiny.

To ask what are "maternal impressions," is but to ask what are intellectual acts, or what are thoughts. It is true, scientists and materialists claim to have answered this question, and perhaps have done so to their own satisfaction, but their answer is far from being received or accepted by the great mass of mankind, and by very many physicians.

That consciousness, or thought, which underlies and is the basis of all knowledge, arising independent of and uncontrolled by the will, is located in and arises from brain matter *no one will deny*. Of all material matter which goes to make up this grand universe, upon which we look with wonder and astonishment, and wherein we find displayed and made manifest to our senses on every hand an infinite wisdom and a creative power far beyond our finite comprehensions, I repeat, of all this wonderful mass of material matter, brain matter, and brain matter only, gives rise to thought. While it is true we can form no idea or conception of thought or intellectual acts aside or disconnected from brain matter and brain action, yet may we not unhesitatingly assert "that physiological research *has not* reduced the fact of intelligence to the phenomena of matter only." "Can thought be evolved by physical or chemical forces or the molecular play of brain matter only?" Physiology cannot or does not affirm the proposition, and yet those who claim to be advanced thinkers assert "that the physical forces of the brain are all sufficient for the production of thought."

One says, "All states of consciousness in us are immediately caused by molecular changes of brain matter." (Huxley.)

Another says, "That the brain secretes thought just as the liver secretes bile." (Cabiness.)

And another says, "That thought is a force developed by brain action."

It is evident from the diversity of opinion here expressed as to *how* thought is evolved from brain matter, that he who endeavors to solve the mysterious connection between mind and matter finds himself walking in a field of obscurity, surrounded on every hand by dark clouds of uncertainty,

which admonish him that there is "a horizon beyond which human knowledge cannot go."

In the dark valley which intervenes between mind and matter, where thought, lost in a labyrinth of mysteries, struggles to comprehend the mode and manner of its own creation, we meet with some of the profoundest mysteries of our nature. Here, gentlemen, we fall in with sleep, dotage, somnambulism, and insanity, mental conditions upon which scarcely a ray of light has been thrown, and around which the veil of mystery hangs like a heavy drapery.

"In the misty clouds of doubt and speculation which forever brood over this dark gulf a thousand theories and a thousand errors lurk."

"In the language of Dr. Theophilus Parvin, we may weigh the brain, count its billions of cells, measure, if you please, the rate of its sensory impressions or motor impulses. You may go further, and localize its functions and analyze its matter, you may convert it into OHNC and Phos., if you wish, you may measure the undulations or vibrations of its molecules, and determine its mechanical or chemical forces and phenomena, and after all of our observations, calculations and analyses" what have we accomplished? We have but *determined the cerebral conditions incident to thought or its production, but not what constitutes thought itself.*

I am fully convinced that every intelligent, thinking physician, every physician who has directed his attention to what are called "mental influences in the causation, the aggravation, as well as in the cure of diseases" will agree with me in the opinion, yea in the *conviction*, that there is something in these bodies of ours superior to the body itself."

I do not believe, therefore, that the phenomena of mental action can be referred to or is dependent on physico-chemical laws, *per se*. "But we must accept the idea of a vital principle as being superphysical, and with that idea, its correlate, a living Creator such principle." "God pervading all, is in all things the mystery of all and each."

So then, in answer to the question, What are "maternal impressions," or what are thoughts considered in their entity? we must, in the language of our esteemed fellow member, Dr. J. S. Sanders, say "we don't know." But while we may not be able to materialize thought, or unravel the mystery of its production, we do know, however, that the brain is so constituted that it can, and does, receive impressions made upon it by external objects though the medium of the senses; or they may originate in the domain of thought itself (as in dreams), through the inherent powers of the imagination, "which worketh while the judgment is at rest and the will is in captivity," and in either event these impressions may become *fixed, permanent, and living images*, ever ready to be called up and brought vividly before the mirror

of the mind, never to be erased so long as the mental faculties retain their normal powers.

Through the medium of language these images or impressions may be conveyed from brain to brain, from mind to mind, *only*, for physiology teaches us that the nervous system—which includes brain and nerves—is anatomically and physiologically separate and distinct from all other systems and organs of the body; that its physiological properties are *inherent*, and that it gives to no tissue or organ its special irritability or power of *performing its particular functions*, *i. e.*, brain matter evolves thought and receives impressions, and nerves transmit them. The power of transmitting thoughts or mental impressions is not and cannot be delegated to any other organ or tissue of the body.

Modern physiology, founded to a great extent upon experiments made upon living animals, teaches us that the intellectual brain; the home of intelligence, the *canvas* upon which these wonderful "maternal impressions" are painted, has far less influence over the functions of the body than at one time was supposed. For instance, it has been demonstrated that, after division of the *dorsal spinal cord*, acts proper to copulation, and those of labor and birth, take place in a normal way, and that the processes of ovulation—of the development of the pregnant uterus—(which necessarily involves the development and growth of the foetus), and the lacteal glands, the development of the impulses which are associated with reproduction, suffer no visible impairment from this operation.

I believe that it is a conceded fact that the umbilical cord, which varies in length from 4 to 60 inches, has no nerves; that is, there are no nerves passing from the uterus of the mother along the cord to the embryo, by which "maternal impressions" could be conveyed to the developing embryo.

Again, we all know that the foetus is surrounded by, and floats in, the amniotic fluid, and that this fluid is developed *very early* in foetal life; that it reaches its maximum quantity about the middle of gestation, and then lessening to the end of pregnancy; so that these "maternal impressions" could scarcely reach the foetal body by or through the medium of its contact with the interior wall of the uterine organs. And since we have shown that the nervous system *never* delegates its peculiar functions to any other organ or tissue of the body; and since it has been determined, and I presume it is conceded by every one, that nerve tissue *only* conveys mental impressions, and as there is no nervous connection whatever, direct or indirect, existing between the organism of the mother and the foetus *in utero*, I again ask how, and by, and through what medium these intellectual impressions are transmitted, or conveyed from the brain of the mother to the foetus *in utero*?

To surmount these barriers to the acceptance of this theory we are told that these impressions may be conveyed in early embryotic life, before the allantois and other membranes form, the placenta and umbilical cord. Before proceeding to meet this suggestion—for it is only a suggestion—I will say that, in a vast majority of instances, it is alleged that these "maternal impressions" operate or exert their deleterious influence upon the fœtus at a later period of gestation; that is, at some period from the third or fourth month of gestation till near the end of pregnancy. As a rule, but little notice is taken of these "maternal impressions," and but little importance attached to them, during the first months of gestation.

The great Creator of all things has ordained from the foundation of the world that man, with all of his capabilities and yet unknown possibilities, should be born of woman. She is the matrix of mankind—the mother and perpetuator of the races; she carries in those wonderful little ovarian bodies of hers the seeds of the human family.

In all the higher order of animals or beings, two separate individual beings are necessary to accomplish the process of germination—one the male, endowed with the fecundating power or nature, and the other the female, endowed with the germinating power or nature. "Male and female created he them, unto the end that they might increase, and multiply, and fill the earth with intelligent beings, wonderfully endowed with life faculties."

In the germinal spot or vesicle of the fecundated ovule or egg of the human female, a microscopic object, $\frac{1}{3000}$ of an inch in diameter, is comprised the very commencement of human life. And in the ovum, which is only $\frac{1}{20}$ of an inch in diameter—strange, wonderful and mysterious as it may seem and is—in this wonderful little object there dwell "*physical potentialities, species, race, family and individuality*;" yea, and more, for here we find implanted that wonderfully mysterious and incomprehensible law of *heredity*—a law to the operation of which we owe our being; a law transmitting the physical, intellectual and moral qualities and peculiarities not only of parent and family, but of race and species, from parent to child; a law far-reaching and widespread in its nature and in its operations; "a law in which these distinctive qualities and peculiarities of race, or family, or both, may slumber through one or more generations, to reappear in subsequent ones." In the operation of this law, we frequently find "disease transmitted from one parent or the other to the offspring, and the disease may show or manifest itself in the child, before it does in the parent transmitting it. Or, again, the malady may date back to a grandparent, the father or mother transmitting to their children a disease of which they (the parents) presented not the slightest manifestations perhaps during a long life."

How true are the words of Edgar Fawcett:

"Who sees how vice her venom wreaks
On the frail babe before it speaks;
And how heredity enslaves
With ghostly hands that reach from graves."

When the vital cells or spermatozoa of the male reach the ovule of the female, many of them collect around it, floating in a medium seemingly provided for the purpose. Several of them may, and frequently do, penetrate the zona-pelucida, its outer membrane, but it is left for one, and one only, to accomplish its fertilization.

When this vitalizing cell enters the germinal vesicle of the ovule, in obedience to an inherent reproductive law which pertains to all germ life, it divides itself into two complete and perfect cells, each retaining its distinctive characteristic features. One, the protoplasmic cell formed of a part of the head of the spermatozoon, impelled by an inherent sexual power, goes direct to the protoplasmic cell or germinal spot of the ovule, and these two protoplasmic cells fuse into one, and form the segmentation nucleus of the fertilized egg.

Again, the vital cell formed by the tail of the spermatozoon unites with the protoplasm furnished by the ovule, forming a second joint or combined cell. These two, in connection with a nucleus or cell resulting from the fusion of the remainder of the head of the spermatozoon with the residue of the germinal vesicle of the ovule, forming, as you see, three classes of cells or spheres, called, as you remember, epiblast, hypoblast, and mesoblast. These, in connection with a group of cells which result from the division of the ovum, called "blastomeres," constitute the several groups of cells developed in the ovum—each cell divides, and each of these again divides, and so on until groups of each are developed.

From these several groups of vital cells as I have endeavored to describe them, formed by fusion of the male and female protoplasmic material, *the fœtus, with all of its organs and tissues, is developed.* And this is accomplished by the same process, and in the same manner, that the organs and tissues of the adult are regenerated and maintained—that is, by cell proliferation and modification.

The youngest human ovum of which we have any record, that has ever been seen, was estimated to be twelve or thirteen days old, and it is thought that it requires about that length of time for it to reach the uterine cavity after leaving the ovarian nidus. During the transit of the ovum through the Fallopian tube, and until attached to, or overlapped by, the mucous lining membrane or decidua of the uterus, nature provides it with its own nutrient material. Most assuredly, it cannot be influenced or impressed by "maternal impressions" at this stage or period of its development, since it has no nervous connection with the uterus,

nor does it draw its nourishment from the nutrient element of the mother's blood. And further, at the end of the first month of gestation, the embryo is but a pulpy mass, without fetal form, and only $1\frac{1}{8}$ of an inch in length. The amniotic fluid, however, has been developed, and the embryo can be seen floating therein even before this period.

The process of segmentation, or binary division, is usually completed by the time the ovum reaches the uterine cavity, by which time a heterogeneous mass—not of cells, but of groups of cells, is formed; each group being endowed with an inherent capacity to form by multiplication and coalition certain organs and tissues of the fetal organism—that and no other. They are the architects and builders of the new being, acting wholly independent of nerve influence from any source whatsoever.

To demonstrate more fully and forcibly this inherent cell law, I here show you the picture of little Ada Hurst, aged two and a half years, from whom I assisted Dr. I. F. Hooks, of Paris, one of our respected and honored members, in removing a dermoid tumor weighing $7\frac{1}{2}$ lbs. One of the ovaries of this child, from some unknown reason, caught up the process of cell multiplication or proliferation, and set to work to make a fetus of its own; the effort resulting in a confused and conglomerate mass of fetal tissue, including hair, bones, etc.

By the operation of this law there is implanted in the ovum everything necessary for the development and growth of the fetal organism, except, perhaps, the nutrient material out of which the process is to be accomplished. The Deity, in his infinite wisdom, has seen fit to isolate these new beings, and place them out of the reach of influences calculated to mar their being or prove hurtful to their development and growth.

To sustain the theory of "maternal impressions" we are further told, that these severe mental emotions so impress, alter, and change the nutritive element of the blood of the mother, that it perverts and vitiates the nutritive process of the fetus; that the fetus, being in the formative stage, is more readily affected by a vitiated or hurtful element of nutrition than the adult.

Upon the point of fetal nutrition I will say, that it has been recently reasserted that the fetus is nourished altogether by swallowing, or absorbing, through the skin, the amniotic fluid, and that the only function of the placenta is to act the part of a lung; that is, to give off the dioxide of carbon from the fetus and to receive oxygen from the arterial blood of the mother, in the same way and manner that the fimbriated extremities of the gills of the fish receive it from the water which it breathes.

If this theory prove to be true, then the fetus supplies its own nutrient material, since the amniotic membrane is strictly a fetal membrane, formed within the ovum in very early embryotic

existence, whose physiological function is to furnish the liquor amnii. This fluid being a secretion furnished by the amniotic membrane, it is more than improbable that maternal impressions could pass through the process of secretion and reach the fetus through such a circuitous route. If, however, it receives its nourishment from the arterial blood of the mother—which it unquestionably does—and these maternal impressions produce a systemic or nervous shock which so alters and changes the nutritive element of the maternal blood as to render it unfit for fetal nutrition, *why not for maternal nutrition as well?* since, for every ounce of this material which is appropriated to the development of the fetal organism, from 2 to 3 lbs. of the same material goes to the regeneration or maintenance of the organism of the mother.

The pregnant woman who maintains her normal physical condition during pregnancy appropriates to the maintenance of her own organism not less than 30 lbs. of nutrient material per month; aggregating 270 lbs. during the period of gestation, and if the child at birth weighs 9 lbs., which is something over an average, the mother will have used *thirty pounds* of the nutrient material, to the fetus' *one*. Further, if the process of nutrition can be deranged, perverted or arrested by impressions made upon the mind, it occurs to me that it would occur more frequently in the mother than in the fetus, since she is in possession of a *matured* nervous system, which it is claimed regulates the functions of secretion, nutrition, calorification, and all the processes of organic life.

It is not claimed, however, that the entire organism of the fetus suffers from this altered condition of the circulating medium of the mother. If such was the case, and "maternal impressions" proved detrimental to the development and well-being of the fetus, we might very rationally conclude that such ill effects were the result of a vitiated or depreciated condition of the nutritive element of the blood. On the contrary, however, their evil effects are only seen in some certain *locality, organ, or tissue*, making manifest such alteration or perversion of the normal process of nutrition by reproducing, on the fetus, a duplicate of the *picture* impressed, or photographed, on the mind of the mother. In other words, these cruel "maternal impressions," as though capable of exercising a degree of intellectual control over the fetal nutritive process, *say to it*, "See that thou makest it" (the picture); it may be a bloody hand, a lacerated and bleeding limb or a deformity of some kind, or a snake, or a turtle, or a rat or mouse, or some other scary animal or ugly sight—it *matters not what*, just so it makes a "maternal impression"—"see that thou makest it according to the pattern showed thee in the mount."

What a wonderful perversion of nature's laws. As an argument in favor of this theory, we are further told that the fœtus is being rapidly developed, that it is in the formative stage, and consequently, any slight alteration in the nutritive process would be followed by more serious results in the fœtus than in the adult.

In answer to this I would say, that it is a well-known fact that, in a large majority of cases of pregnancy, nature provides for the development and growth of the fœtus, by inaugurating in the system of the woman an exaggerated or hypernutritive process similar to that which takes place in the fœtus. This is made apparent by an increase of weight, by an increase of adipose tissue, and by a general improvement in the physical condition and appearance of the woman. This increase of tissue being as newly formed, and as recently developed, as the organism of the fœtus, I can see no reason, nor do I find any medium through which nature could make such cruel and unfair discrimination against the innocent unborn, upon this ground. It seems strange to me that whatever of evil effects or disastrous consequences flow from these "maternal impressions," or mental shocks, that they should be visited on and manifest themselves only upon the fœtus *in utero*.

Again, if the fœtus *in utero* is to be regarded during its development; that is, during its intra-uterine life, as a part of or as an addendum to the physical organism of the woman, subject to all the mutations for good or ill that may take place in her organism, governed and controlled by the same physiological laws that sustain vitality and govern the animal functions, including the nutritive process in the body of the mother; I say, in that event, "maternal impressions" or intellectual acts are most assuredly *inoperative*, and cannot be regarded as instrumental in the production of changes in the developing fœtus to the extent of producing abnormality, for it is well known, nor is it claimed by the most ardent advocates of this theory, "that the Ethiopian can change his skin or the leopard his spots." "Or which of you by taking *thought* can add one cubit to his stature."

If the intellectual impressions can "mark" or deform the fœtus, then they can "mark" or deform the body of the mother as well. As before intimated, I regard it as an unsettled question, as to what extent the process of nutrition is influenced or controlled by nervous influence, or nerve force. In muscular atrophy, for instance, the shrinking and wasting of the muscular tissue is said to be due to inaction; or, in other words, to the loss of motor power, and not to loss of nerve force by paralysis.

I am convinced that the nutritive process going on in the fetal organism is in no wise influenced by its own nervous system. This, I think, is

clearly demonstrated by the perfect development of the acephalic monsters. Some of these are perfect specimens of physical development, *less the brain*. I have in my possession a *finely formed male child*, an anencephalic monster, which is destitute of brain and spinal cord. And yet, some of these have been known to live for from a few hours to six and seven days. Bayle reports one that was born with two teeth, which lived seven days. Ramsbotham reports seeing one of these anencephalic monsters alive thirty-six hours after birth. He states that it cried, sucked, and seemed to perform all the animal functions much more perfectly than would have been supposed. He also relates an instance of a woman having had six children and each alternate one being an anencephalic monster.

It would extend this paper to too great length, and unnecessarily consume the time, to even attempt to enumerate the different abnormalities which have been classified by writers upon this subject, to say nothing of those which have not, running as they do over an extensive field of observation, from the proverbial "strawberry mark" to the composite monstrosities.

In the classification of the hæmiterata, or anomalies of growth alone, we find fourteen varieties described; in the single monstrosities ten varieties; in the twin or composite monstrosities twelve varieties. Then again, each of these varieties are subdivided, extending the list to great length. In the field of malformations or deformities we find an extensive variety, such as bow-legs, knock-knee, bandy-legged, hump-shoulders, all the varieties of club-foot, club hands, supernumerary fingers and toes, cleft fingers and toes, webbed fingers, etc. These are generally hereditary.

"Thus in a family of twelve children two out of four boys had harelip and fissured palate, and one out of eight girls had hypertrophy of the right lower extremity with atrophy of the right great toe. The father had a supernumerary little finger on one hand."

Intra-uterine amputations are not infrequent. Skin diseases are more frequent, and are often likened to the skin of some animal seen by the mother. Congenital nævi are very frequent. This is the disease which makes the "marks" on the new-born babe, and which is contorted into the likeness or image of such a variety of objects by the imagination of old women and doctors, and attributed to "maternal impressions." When arterial and cutaneous they are of a bright florid color, and are made to represent some bloody scene, if, perchance, anything of the kind should have been seen by the mother during gestation. Where venous and cutaneous they are of a bluish or purplish color, and are then made to represent another series of objects.

This disease of the capillaries though generally congenital, may occur after birth. It may

be single or multiple, cutaneous or subcutaneous, arterial venous or mixed. If it was in the human family *only* that these abnormalities occurred we might be inclined to attach more importance to this prevalent idea, but they are of as frequent occurrence if indeed not more frequent in the lower order of animals, especially in the domestic animals, such as the horse, the cow, the dog, the hog, the cat, etc. When they occur in these animals they are the counterpart of what we see in the human subject. They are not infrequent in the feathered tribe, also.

It is true, the animals above enumerated are gifted with wonderful instincts, but it is hardly reasonable to suppose that they possess a sufficient degree of intellectuality to be influenced by such sights or objects as is claimed make these maternal impressions upon the mind of the pregnant woman.

In early embryotic life in case the amnion is not lifted from the newly forming skin of the embryo, in consequence of an insufficient secretion of amniotic fluid adhesions form between the body of the fœtus and amnion, and as the amniotic cavity becomes distended the adhesive material stretches and forms bands of greater or less length and thickness. "These adhesions frequently prevent the proper arching over and closure of the body cavities, producing such deformities as *eventration*, *anencephalus*, etc.

Moreover, a developing limb, as an arm or leg, or a hand or foot, may be caught between two of these bands, or may be encircled by one, and as it grows be so constricted as to produce an amputation. The amputated portion of the limb being in the embryotic stage of development is soon dissolved by the amniotic fluid—or it may be accomplished by the limb being encircled by the umbilical cord. Amputations in-utero occur in this way, and not as a result or consequence of "maternal impressions," as some believe.

In conclusion, I would say that various causes have been assigned for the production of these abnormalities. Some physiologists are inclined to the opinion that the germ is imperfectly formed prior to impregnation. Others that they may result from an undue admixture of protoplasmic material at the moment of fecundation. Other causes also, it is thought, may operate, such as the rapid and active growth which develops from a single cell—in the short space of nine months—one of the most intricate, complicated, complex and mysterious beings in all the animal creation. When we remember that the most important vital functions of this being are performed during its development by an organ itself *without* the fetal body, and subject to diseases and accidents, and when we consider that the fœtus is essentially a parasitic being, liable to become diseased and development arrested by some systemic disease of its host. And again, that these results may be

brought about by some taint or vice handed down from somewhere along its long line of ancestry, even from "Ghostly hands from graves." I repeat, when we take all these things into consideration—and many more which could be mentioned—and then remember that hundreds, if not thousands of children are born every hour, may we not rather be surprised at the comparatively few abnormalities we meet with. And may we not rationally conclude *that there are causes* enough operating to account for their occasional occurrence—which appear more rational and more in harmony with the laws of cause and effect—than to attribute them to the intellectual acts or mental impressions of the pregnant woman. For it is well known that these so-called "maternal impressions" exist to a greater or less extent in the minds of a large majority of pregnant women without producing any visible effects whatever upon the child.

CONSTITUTIONAL TREATMENT OF ACUTE CATARRH OF THE UPPER AIR PASSAGES.

*Read before the American Rhinological Association at Cincinnati,
September 13, 1888.*

BY J. G. CARPENTER, M.D.,

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Acute catarrh or cold of the "upper air passages" might truly be called a "fresket" or "overflow" of the watery and other constituents of the blood, into the mucous and submucous connective tissue. To successfully treat this disease, there are three indications, viz.: first, to arrest it in the first stage, or prevent this overflow and injury to the normal tissue; second, should the disease have passed into the second stage, drain out and deplete the engorged and inflamed tissue and arrest inflammation; third, repair the damage to the affected tissue by the disease having passed into the third stage, and not allow it to end in chronic catarrh, but resolution.

Constitutional Treatment.—Bromide of potassium diminishes reflex irritability and cutaneous sensibility, and depresses the activity of the spinal cord and the medulla, and has its appropriate place in the first and second stages of acute catarrh. The iodide of potash acts specifically on the mucous lining of the eyes, nose, frontal and ethmoidal sinuses, mouth and salivary glands; 3 to 10 grs. taken at bedtime will often cut short a cold in the upper respiratory tract, and is indicated in the first and second stages. Combined with 20 or 30 grs. of the bromide its action is increased; in addition, there is the anodyne effect of the latter.

"Inhaled or taken by the stomach camphor exerts a decided influence on cold in the head." Employed at the beginning of an attack (it is useless after the first stage), camphor sometimes arrests a cold, and failing in this it abates its vio-

lence, obviating or diminishing frontal headache, restlessness, sneezing and running at the nose. ("Inhalations or sprays of spts. of camphor locally, in weak solutions, assists the internal administration." Ringer.) The same may be said of menthol in weak solutions, or the pencil applied to lips, tongue and nares.

The hot foot-bath, given in ordinary colds by patient sitting on the side of the bed in a warm room, with a blanket enveloping both patient and tub, for fifteen to thirty minutes, keeping the temperature of the water 95° to 100° F., and then remove feet wrapped in the blanket without drying, causes a free perspiration, and allays irritation of the air passages and restores the skin to its normal function.

Should an acute catarrh or "cold" be very violent, the patient should be placed in bed between two blankets with sufficient cover, and have placed between the blankets a tub of as hot water as can be tolerated, in which the feet should be immersed from twenty minutes to one hour, and tub then removed. Every five minutes a cup of hot water should be added to maintain the high temperature of the bath. The good effects of both a foot and vapor bath are obtained. The patient sweats copiously, and should remain carefully wrapped until the perspiration subsides, the clothing and skin are dry; then the body should be massaged and anointed with vaseline once or twice every twenty-four hours for one or more days, if necessary. The function of the skin being arrested in acute catarrh, the inunction and massage cleanses the skin, invigorates the body, and fortifies the system against future invasions of acute inflammation of the upper air passages. If essential, the hot foot and vapor bath may be given every six or ten hours. A cup of strong hot coffee or tea, or even hot water taken, aid the diaphoresis; the former also acting as a fine diuretic. A hot lemonade or Dovers powder will also increase or continue the diaphoresis for some time after the tub is removed. If a cold is neglected it ends in chronic catarrh, or the subacute. Every cold weakens the system to a certain extent, and makes the patient more susceptible to future attacks unless properly treated, therefore abort or arrest an acute catarrh at once. ("At the commencement of a feverish cold a Turkish bath will cut the attack short, remove the aching pains and relieve the hoarseness at once. The Turkish bath will relieve or carry off the remains of a severe cold, as hoarseness, cough with expectoration and lassitude." Ringer.) In mild attacks of acute catarrh, anointing the integument with vaseline, and the free use of massage once or twice in twenty-four hours for one or more days, will abort an attack and assist the other medicines in accomplishing the same result.

Opium and its preparations check the secretions from all mucous membranes, and no doubt have a

specific effect in checking the acute inflammations and secretions of the upper air passages, and by allaying pain and cutaneous irritation and its diaphoretic action makes it or some of its preparations a valuable, if not the most valuable, drug that can be given in any stage of acute catarrh, more especially in the first and second stages. Opium should be given in $\frac{1}{4}$, $\frac{1}{2}$, or 1 gr. doses, and repeated every one, three or six hours, *pro re nata*. The various preparations should be given in small doses and repeated at the above intervals. It is often essential to combine quinine or belladonna with opium, one or both; the former in 2 to 5 gr. doses; the tincture of belladonna, gtts. iv-xv; extract, $\frac{1}{8}$ to $\frac{1}{3}$ gr., given at the same intervals as opium. When Dovers powder is given the bromide of potash should be substituted for the sulphate. Muriate of pilocarpine, gr. $\frac{1}{4}$ to $\frac{1}{2}$, will aid very materially the diaphoretic action of opium and arrest congestion of the respiratory tract. In the first stages of acute catarrh, nitrite of amyl or "glonoin" will often abort or arrest the disease. The most characteristic effect of this drug is its influence on the vascular system. It relaxes the whole arterial system and greatly reduces arterial pressure. The reduction of arterial pressure is due mainly to the great dilatation of the arterioles and, after large doses, to depression of the heart. Though it dilates the arterioles, they remain so a much shorter time than the arteries, and when the following symptoms are present in the first and second stages, viz.: chilliness, headache, lassitude, dryness of skin, cold feet, sneezing and photophobia, pain in the nasopharyngeal chambers, nitrite of amyl does good by flushing the integument and increasing the heat and perspiration of the head, face and neck; sometimes the increased warmth and perspiration affects the entire skin. Its effect is possibly due to its effect on the vaso-motor nerve trunks or on the muscular coats of the arterioles. In catarrhal, as in other inflammations, there is partial or complete paresis of the vaso-motor constrictors. The nitrite of amyl does not increase the paralysis of the constrictors of the vessels, but dilates the arteries and arterioles and allows circulation of the blood to be increased in other parts of the body, thereby equalizing the circulation and arresting inflammation. Trinitrine tabloids are preferable to the nitrite of amyl. The physiological effects of the former are continued a much longer time than the latter, and four to six doses, three to six hours apart, in twenty-four hours, maintain the physiological effects. Quinine is partly eliminated by the skin and respiratory membrane, and it arrests the amœboid and allied movements of the white corpuscles and is supposed to control inflammation by its destructive influence on the movements of the white corpuscles, and in the first and second stages of acute catarrhal inflammation will cut short an attack. Its action is

much increased by combining it with opium, belladonna or aconite. Quinine, by arresting the transmigration of the white corpuscles, prevents the formation of the pus corpuscles, and should be continued through the third stage of acute catarrh until resolution is complete. It is antiseptic, and in small quantities destroys septic germs, arrests putrefaction, renders the secretions aseptic, and is a valuable local application in the first, second and third stages of acute catarrhal inflammation of the upper air passages. A powder composed of quinine sulph., grs. ij; bismuth subnit., grs. ij; morphine sulph., gr. $\frac{1}{8}$; cocaine muriat., gr. $\frac{1}{8}$ to $\frac{1}{4}$, well triturated and blown into each nostril two or three times in 24 hours, will abort or arrest a cold quickly in the first and second stages and shorten the duration of the third stage.

Belladonna is one of the most efficient drugs that is used in the treatment of acute inflammations of the "upper air passages," and, given internally or locally, checks and even suppresses the secretions of the mucous glands and follicles.

"One of the centres of the sympathetic nervous system—the sphenopalatine ganglion—supplies branches to the lining membrane of the nose, throat, soft palate and Eustachian tube. It possesses a sensory, a motor and a sympathetic root. It is connected with the pneumogastric and facial nerves, and through its numerous connections an intimate sympathetic relation is established between the nose, throat, ear, larynx and bronchial tubes. Removal of this ganglion causes a severe catarrhal condition of the nasal mucous membrane. This membrane is continuous with that which lines the nasal duct and eyelids, the throat, Eustachian tube, middle ear, larynx, trachea and bronchial tubes. A congestion started in one portion of this membrane may extend to other parts." In acute catarrh there is, doubtless, a paresis of the sphenopalatine ganglion and other vaso-motor nerve centres. Belladonna acts specifically upon these centres which supply the glands and follicles of the mucous membrane. It not only arrests the normal supply of blood, but also an excess of blood to the inflamed tissues, and, by dilating the arterioles and arteries in other parts of the body, causes a determination of blood from the tissues involved, arresting inflammation, aborting the first and second stages of catarrh, and lessening the duration of the third. The physiological action of belladonna and its alkaloids is to cause a dryness of the Schneiderian membrane, pharynx, palate, tongue, larynx and trachea. In the second and third stages of acute catarrh this is a great desideratum. The effects of belladonna and its preparations are much increased by opium. Dose of the tincture of belladonna is grs. viij to xv for first dose, then gtts. iv to viij, repeated every two, four or six hours *pro re nata*.

"The power of aconite to control inflammation

and subdue the accompanying fever is remarkable. It will sometimes cut short an inflammation but will not remove its products, though by lessening inflammation it will prevent their formation, so saving the tissues from further injury." It is, therefore, in the early stages of inflammation more conspicuously serviceable, as in the first and second stages of acute catarrhal inflammation of the upper respiratory tract. "Aconite diminishes both the sensibility of the terminal ends of the nerves supplying the mucous membrane and the skin also. Moderate doses lower the pulse and respiration by its influence on the muscular substance of the heart or on the contained ganglia, and on the respiratory centres." Aconite increases the flow of blood to the skin, rendering a dry skin moist and perspiring; in this way heat is lost by radiation and evaporation. Fothergill states, aconite dilates the arterioles and greatly increases the capacity of the vascular system, and by this means drains the blood away from the inflamed organ; in fact, this drug bleeds the patient into his own vessels. As the vessels are already paralyzed leading to an inflamed organ, aconite does not augment the supply of blood to it.

In the first stage of acute catarrh, when rigors, a dry hot skin, dry mouth, tongue and nares, headache, pain in throat or nasal region, restlessness, lassitude, aching pains and stiffness, and photophobia exist, the quickened pulse and respiration become less frequent, and the temperature lowered, by the use of aconite in from six to forty-eight hours, and remain normal; in a few hours the skin becomes moist, and followed in a short time by free perspiration. On rhinoscopic and laryngoscopic examination it will be observed that the local manifestations of acute catarrhal inflammation will have subsided as magically as the constitutional.

How should aconite be given to have the desired effect? It must be given at the inception of the disease; every hour delayed is so much valuable time lost, as the malady will soon pass from the first to the second stage, or from the latter into the third. Half to one drop of the tincture should be given every ten minutes for two hours, in a teaspoonful of water, then hourly; or two or three drops every half to one hour for two hours, then every two or four hours. When there is a weak pulse and much prostration small doses must be given at longer intervals. Ringer states that in the treatment of inflammations the thermometer and aconite should go hand in hand. No acute inflammation can exist without preternatural heat. If the temperature is normal aconite is not indicated, otherwise it should be given. When the catarrhal inflammation is quite severe it is better to combine aconite with belladonna, both given in small doses frequently repeated.

In acute catarrh attended with much preter-

natural heat, headache, myalgia or orbital neuralgia, antipyrin in from three to five or ten grain doses, repeated every one or three hours, has proven to be a valuable addition to the physician's armamentarium of drugs.

Cold compresses to the throat when pain exists or deglutition is painful, and changed every hour until pain is relieved, or cloths wrung out of hot water and applied every ten to thirty minutes until pain is relieved are valuable local measures. When a rhinitis, or naso-pharyngitis exists, with orbital neuralgia, headache and photophobia, great relief is given by local applications to temples and forehead of menthol, either with the pencil, or menthol 5j-5ij, ethyl bromide or alcohol 5ij-5iv, made into a solution and painted over the pain. Should a catarrhal laryngitis or trachitis accompany the naso-pharyngitis, menthol applied over larynx and trachea in the first and second stages of inflammation, every four or six hours, or in the third or purulent stage blisters the size of a nickel over the larynx and trachea very materially hasten resolution. Catarrhal patients must be taught by the physician the importance of resorting to constitutional and local measures when a cold supervenes, and to abort it at once and hasten resolution, and the remedies to be used and always kept on hand. The patient when properly educated can abort a cold in from six to twelve hours when treatment is begun in the first stage, and can check it in from two to four days when begun in the second stage, and lessen the duration of the third stage.

Local Treatment of Acute Catarrh, or Cold, of the Upper Respiratory Tract.—Local treatment has three objects in view, viz.: 1st, non-irritation; 2d, thorough cleansing of the diseased surface with sufficient force to remove the morbid secretion; 3d, medication of diseased tissue without irritating or treating healthy tissue.

(In treating locally acute naso-pharyngeal catarrh the old adage, "*ubi irritatio, ibi fluxus*," must be kept in mind by both patient and physician.)

Treatment of the first stage should be as follows, viz.: Spraying the nasal chambers, or these and the throat, with a 2, 4, or 6 per cent. solution of muriate of cocaine, gtt. 10-30, one to three times a day, at intervals of eight hours, or absorbent cotton saturated with it and inserted into the nares and repeated every ten to thirty minutes until the desired effect is produced. Or, a 2, 4, or 6 per cent. mixture of cocaine can be made with vaseline and sprayed, after being warmed and melted, into the upper respiratory passages. Cocaine is an anæsthetic, anodyne, astringent and antiphlogistic. Vaseline is a mild, soothing astringent, antiphlogistic and aseptic, moistens the mucous lining in the first stage of acute inflammation and protects it against further injury. In this stage the mucous secretion is almost, if not en-

tirely, arrested for the time. Bosworth states there is poured out on the nasal mucous membrane in health from twelve to sixteen ounces daily of serum. This normal secretion is not perceived in health, being rapidly vaporized by the to and fro current of respired air. Doubtless there is equally as much secretion from the pharynx, larynx and trachea in health. When these organs are inflamed, in the first stage of acute catarrh, this secretion is arrested, and vaseline supplies its place and is either absorbed or oxidized, anyhow it is non-irritant, soothing and protective. Liquid applications to an acutely inflamed mucous membrane causes it to absorb moisture and the disease becomes aggravated, cocaine used locally will check a cold in from one to three days, and relieves hyperæsthesia, pain and reflex irritability at once. All local applications should be made with vaseline for the base, melted and liquefied, and sprayed while warm. Equal parts of vaseline and glycerine are very effectual in the first stage of catarrhal inflammation.

Very often acute naso-pharyngeal catarrh is attended with a catarrhal laryngitis, or laryngo-trachitis, and of all means that have been invented for making local applications to the air passages, Rumbold's spray-producers, Nos. 1-5, inclusive, for the naso-pharyngeal chambers, and 6-8 inclusive, for the larynx, are the best, excepting, only, Dr. A. DeVilbiss', of Toledo, Ohio. His spray-producer, by turning a point, can throw the spray in the same number of directions as the Rumbold instruments. With these spray-producers the medicine can be applied warm, the temperature of the respired air, and directly to the diseased surface, healthy tissue being avoided. Not more than 7-10 lbs. of compressed air should be used to make the spray, more than this will cause irritation and pain. A rhino-laryngoscopic examination should be made before each treatment, to ascertain what part of the respiratory tract requires the most treatment, so that the surface least affected will receive the least treatment, and *vice versa*. Every physician should be able to make a rhino-laryngoscopic examination, and know by inspection the pathological states of diseases affecting the upper air passages. On entering the practice of medicine the young physician should get a laryngoscopic "outfit," and familiarize himself with it, as it will be more frequently resorted to than any other instrument in his office. Rumbold's tongue-depressor is the best as it enables the patient to hold down his tongue and gives the operator the use of both hands.

In the second and third stages of acute catarrh the following medicaments are the best:

R	Vaseline	5j
	Olei eucalypti	gtts iij
	Acidi carbol	grs. ss-ijj
	℞	ft. mass.
	Sig. melt and spray 5j-5ij.	

R	Vaseline	3ij
	Pino Canadensis (Kennedy's)	3 ⁴ to ss
	Olei eucalypti	gtts ij-v
m	ft. mass.	
	Sig. melt and spray half to two drachms.	
R	Vaseline	3ij
	Glycerine	3ss
	Acidi carbol	grs. ss-ij
m	ft. mass.	
	Sig. Dose 3ss-3ij.	
R	Vaseline	3j
	Iodol	grs. v-x
m	ft. mass.	
	Sig. Dose 3ss-3ij, melted and sprayed warm.	

The indications in the second stage is to check morbid secretion, render the parts aseptic, allay irritation, and absorb the inflammatory products. The treatment of the third stage is a continuation of the second, but since there is a muco-purulent or a purulent secretion, and abrasions from exfoliation of the epithelium exist it behooves the physician to use locally aseptic and antiseptic measures which have protective and rapidly-healing virtues. Mild solutions of nitrate of silver, grs. ij-grs. v, aquæ 3j, dose, $\frac{1}{2}$ to 2 drachms, or weak solutions of bichloride of mercury, 1:5000, or 1:10,000, or tincture of iodine 3ij, glycerine 3ij-3iij, or Listerine 1 part, water 4-8 parts, glycerine 1-3 parts, should be warmed and sprayed to cleanse and medicate the catarrhal inflammation, followed by a vaseline spray. Insufflations of bismuth subnitrate or powdered yellow root grs. x-3ss combined with powdered lycopodium 3ss after vaseline is sprayed, assists in the protection of any erosion and hastens resolution.

THE PATHOLOGY AND DIAGNOSIS OF SO-CALLED PELVIC CELLULITIS, WITH SPECIMENS OF SALPINGITIS.

*Read before the Section for Clinical Medicine, Pathology, and Hygiene
of the Massachusetts Medical Society, Dec. 12, 1888.*

BY E. W. CUSHING, M.D.,
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Few diseases present a more constant and well-defined group of symptoms, both objective and subjective, than the inflammatory affection of the pelvic contents which is so well known under various names. In few diseases has the proper comprehension of the pathology, as derived from autopsies, been so long obscured by notions supposed to be founded on physical examination; in none has a just realization of the essential nature of the disease been followed by so brilliant and successful surgical measures.

Curiously enough, from early times there have not been wanting accurate descriptions of the diseases of the Fallopian tubes, as found at autopsies, but these were supposed to be affected as a consequence of pelvic inflammation, rather

than as being the essential and causative factor of the latter. It required the surgical genius and success of Tait and Hégear to bring the profession to realize that the diseased and swollen tubes, involved in a mass with ovaries, lymph, and perhaps pus, as described so accurately by Bernutz and Goupil in 1857, are verily the same lumps and "effusions" which we are all continually encountering in pelvic inflammations, and which under the teachings of eminent authority have been supposed to be outside of the cavity of the peritoneum, between the folds of the broad ligament, a supposed inflammation of cellular tissue, forming a so-called "pelvic cellulitis." Verily a case of *lucus a non lucendo*.

Perhaps it will be worth while to pause here a moment and enjoy the pleasure which delighted the pedantic Wagner, that of transporting ourselves into spirit of other times and observing how wise men have thought, in order to mark our own progress:

"Es ist ein gross Ergetzen
Sich in den Geist der Zeiten zu versetzen
Zu schauen wie vor uns ein weiser Mann gedacht.
Und wie wir's dan zuletzt so herrlich weit gebracht."

In the first place, it is often supposed that the ancients knew little or nothing of uterine diseases, had no works on the subject and left all treatment of such affections to ignorant midwives.

Nothing can be further from the truth. The most important uterine diseases have always been and always will be clinically the same, although the treatment has improved with the knowledge of pathology, and the advance of surgery due to the introduction of anæsthesia and the enforcement of cleanliness.

How graphic and true is the clinical description of pelvic inflammation by the father of medicine: "If the uterus is inflamed the menses are suppressed, and the vagina is mottled with many fine veins, like a spider's web, the fever is acute and causes delirium, and the menses when they reappear are scanty and unhealthy; if the patient eats anything she vomits, and pain invades the lower part of the abdomen, and the loins, and the patient faints, and shivers through her whole body, but the belly is sometimes hard and sometimes soft, and it is inflamed and swollen."

Then comes the description of the symptoms of subacute general peritonitis, which sometimes ensues, and the severe course of which is described; to this let me add the description of the results of local examination from Mercatus, the court physician of Philip II, of Spain: "If the posterior and superior part of the uterus is inflamed, there is pain in the parts around the navel, and sometimes we see them raised in a swelling, but there is worse pain in the loins and

the excrements are passed from the bowel with difficulty, etc." "If the fundus is inflamed there is acute pain in the lowest part of the abdomen, so that the latter seems unable to bear any touch even externally, and the uterus is usually drawn toward the inflamed place, and this accounts for its os and collum being turned the other way. It differs from an hysterical attack in the ardent fever and intense heat of the part. If the anterior part of the uterus is affected a difficulty of urination or a stillicidium ensues, and there is severe pain in the umbilicus and the parts near and below the latter, and if the finger is placed against the os uteri it feels to the touch hard, closed, hot and retracted, especially if the inflammation is in the uterus itself or in its neck, and by the pain, hardness, and heat you will distinguish this condition from pregnancy.

But if the sides of the womb are inflamed the groins are tense, and the thighs are moved with difficulty and pain, and in some cases the leg on that side limps in walking, etc.

Then follow the symptoms of suppuration, with a graphic description of the severe cases and a description of the various ways in which the abscess breaks, the relief afforded thereby; the treatment with poultices,² sitz-baths, narcotics, vaginal infections, and vaginal suppositories, cotton tampons medicated with emollient and discutient decoctions, cupping and venesections, the latter only when the inflammation does not arise from abortion, nor from severe labor, or if the patient has not lost much blood.

"Universa etenim curandi phlegmones ratio in prohibitione ejus quod fit et ablatione ejus quod factum est constitit" ("For the universal method of treating phlegmons consists in preventing whatever is forming, and removing whatever has been formed.")

If resolution does not come on, suppuration is encouraged by appropriate treatment until it comes within reach, when it is to be opened after the surgical method of *Ætius*, which consists in cutting the integument with a knife and opening the abscess with a hot iron, placing the woman in a position favorable for drainage and washing the cut three times daily.

I have brought here several of my books in which the curious will find how various wise men have considered this subject before us. To understand them it is only necessary to remember that the uterus in general included the os externum or vulva, the vagina or sinus or cervix uteri, the os internum, now called externum, the collum or vaginal portion, as well as the tubes or cornua uteri, so called from the fancied resemblance to the horns of animals, situated on the uterus as the head; of course the tubes were well known before the description of Fallopius

from whom they now take their name. The question naturally arises as to how much better off is a woman with pelvic inflammation now than was one similarly affected in the time of Philip the Second. Probably in acute cases not much better off, as far as medical treatment is concerned. The disease is the same, the therapeutics are the same, except that the surgical treatment is now bolder, surer and better, under favorable circumstances and in the hands of experts.

But it may be said that these old fellows knew nothing of pelvic cellulitis; they laid all the trouble to inflammation of the uterus and its appendages; they did not know about the "areolar tissue."

That is where they were right, and where in modern times the greatest error has arisen. It is only within the last few years that really accurate views have again prevailed as to the nature of pelvic inflammation. That the Fallopian tubes could be diseased and adhere to the ovaries and to other parts has long been known.

In his classical work, which I have here, Fallopius says distinctly that the tubes are never adherent to the ovaries unless as the result of severe disease of the uterus:

"Nunquam observare potui meatus istos seminarios conjunctos cum testibus, nisi uterus male affectus fuerit. . . . Nam si in uno latere adfuit tumor aut cancer ejusdem etiam lateris testis ita contractus et colligatus cum dicto meatus apparuit ut connati simul viderentur, at oppositi lateris sami scilicet testis non ita se habere semper visus est. Sin autem utrumque latus erat affectum uterque meatus pariter conjunctus cum teste arme reperiēbatur, hæque bis ant ter ad summum vidi" ("I have never been able to find those seminal passages (tubes) joined with the testes (ovaries) unless the uterus was diseased; for if on one side there was a swelling or cancer, the ovary of the same side appeared so contracted and adherent to the said passage (tube) that they seemed congenitally united. But the ovary of the opposite healthy side never seemed to be in such a condition. But if both sides were affected each passage was found by me equally joined to the ovary; and this I have seen twice or at the most three times").

De Graaf,³ in his celebrated work, which I show here, figures Fallopian tubes deformed and occluded at their extremities.

After De Graaf, and quoting his work and that of Fallopius, came Rnysch, of Amsterdam, who in 1725 published at immense expense his treasury or catalogue of his wonderful museum. Fortunately I am in possession of a copy, which I have

² Make and apply to the lower abdomen a poultice of fœnugrecum, pinseed, wheat flour, boiled figs, and turpentine.

³ A plate in the same work (De Graaf, "opera omnia," 1678), showing a tubal pregnancy copied from Vassalius, and properly interpreted, is interesting at this time. *Ann. of Gyn.*, December, 1888.

here. In *Anatomical Observations*, 43, 84, and 85, "Adv. Dec.," i. p. 6, Th. ix. 15.

He correctly explains and figures the occlusion and dilatation of the Fallopian tubes and their adhesion to the ovaries, due to inflammatory processes usually following difficult labors, and insists on the consequent sterility. He relates cases of puerperal fever with autopsies where the pelvis was full of foul matter apparently regurgitated or forced through the tubes from the uterus.

He insists on the frequency of inflammatory affections, and consequent great distension of the tubes, which he says he never would have believed if he had not made autopsies on so many women.

I will not take up any more time by quoting these old authors at length, but as they are overlooked in the modern references to the subject, I have thought it well to present their books to-night. It must be remembered that these works were in their time great authority, and were continually studied and quoted; the successors of these authors in Europe have therefore always preserved a just comprehension of the nature of pelvic disease, and descriptions of the various forms of salpingitis are scattered through the works of the pathologists and gynecologists of more recent times.

A very full bibliography of the subject is given by Prof. Wylie at the end of his admirable article on salpingitis in the recent "*American System of Gynecology*," edited by Prof. Mann.

It is needless for me to repeat it here. It is sufficient to say that about 1884, by the writings of Marchal de Calvi, followed later by Nongt (1849), and yet later by West, Simpson, and others, the seat of pelvic inflammation was located in the areolar connective tissue which surrounds the cervix and fills out the broad ligament.

On the other hand, Aran insisted that the masses felt during life and found after death were connected with the uterine tubes. In 1857, and later, and more fully in 1862, Bernutz and Goupil described and explained the real nature of pelvic inflammation with precision and accuracy; by the courtesy of Dr. Sinclair I present their work to-night.

It now seems difficult to understand why their observations did not have more effect on the profession, especially as the discriminating mind of Thomas⁴ very early supported their views with the weight of his authority, while Emmett has always upheld the doctrine of "pelvic cellulitis," and I believe is still unshaken in his opinions.

The popularity of the works of the latter author, the authority of his personal teaching, and the influence of the men who have studied under him, combined with the fact that the doctrine as taught seemed founded on the plain evidence of the sense of touch—all these causes conspired in

this country to smother the truth as taught by Bernutz, until the results of the autopsies described by the latter were supported and emphasized by the results of hundreds, ay, thousands of operations for salpingitis, where the evident "cellulitis" could be felt to disappear from the "broad ligament" as the operator shelled out a pus-tube and ovary from behind the uterus.

It is not always easy to understand what is meant by pelvic cellulitis, but as far as I comprehend the various authors, and as I previously understood the subject myself, it is as follows:

The course of cellular tissue in the pelvis is pretty well known. Something like a year ago I read before the Society, in connection with the subject of tubal pregnancy, a translation from Prandl⁵ of the instructive work of Schlesinger, who, by injections of air and of liquid glue between the folds of the broad ligaments, near the tubes, showed that areolar tissue, loosely connected, ran between the folds of the ala vesperitilionis up along the psoas muscle, inwards around the cervix and between it and the bladder, outward to the inguinal ring and downward between the rectum and vagina. Now this is precisely the course taken by the pelvic collections of pus in seeking for an outlet; and when, on examination of a patient, a mass is found laterally and posteriorly to the uterus, nothing is more natural than to suppose that the hard mass is in the thickness of the broad ligament, and thus entirely outside of the abdominal cavity, below the peritoneum. If the mass enlarges it would be held that the peritoneum lining the cul-de-sac of Douglas is lifted up, still leaving the "effusion of lymph" extraperitoneal. If after death the ovaries and tubes are found diseased, in many cases it was urged that these were bad cases and therefore fatal; that here the tubes or ovaries were affected because they also were between the folds of the broad ligament, and more or less connected, on one side at least, with this areolar tissue. That, however, most cases which are not fatal, and which recover without suppuration, get well because the lymph in the areolar tissue is absorbed.

If the pelvic peritoneum is inflamed, it is held to be by extension of the disease from its point of origin between the folds of the broad ligament, around the blood-vessels and lymphatics.

This, as I understand it, is the doctrine of pelvic cellulitis or parametritis. It is plausible, fascinating, but, as I believe, entirely false, except perhaps in certain puerperal cases, where a rent, extending at the side of the cervix right into this areolar tissue, may become septic like any other wound.

How then shall we explain the symptoms? If the mass or masses which we feel are not in the broad ligament, where are they? If not effusions in the areolar or cellular tissue, what are they? In

⁴ *Diseases of Women*, 2d ed., 1869, pp. 380, 381, *et seq.*

⁵ *Ann. of Gyn.*, February, 1888, p. 224 *et seq.*

answering this I will premise that I am well aware that, in one sense, the tubes and ovaries are between the folds of the broad ligament; but when speaking here of the broad ligament I mean that part of it which comes up to the limit of the side of the tube, or to the hilum of the ovary—regarding these organs as practically in the general cavity of the abdomen, like the fundus of the uterus itself.

I answer, then, that the mass as felt is in the pouch of Douglas, behind the broad ligament, or laterally at the side of the fundus uteri, or even sometimes on one side posterior and on one side anterior to the latter.

What is the mass? It is a distended tube, or tube and ovary, which may or may not be imbedded in a mass of lymph more or less recent. In bad cases there may be pockets of serum or of pus outside the tubes, but yet within the cavity of the peritoneum, above the latter, and roofed in by coils of intestine matted together and lined with lymph, which may form a strong and smooth membrane, a sort of sac for the abscess. If the areolar tissue is entered, it is secondarily while the abscess is finding its way out along the lines above described.

The diagnosis is to be made between this condition, with its various subdivisions, and the tumors proper and cysts which are found in the same locality.

These comprise—distended tube and its complications: hydrosalpinx; hæmatosalpinx; pyosalpinx; tubercular salpingitis; tubal pregnancy; abscess between tube and ovary surrounded by sac; serous collection in pouch of Douglas adjacent to tube and roofed in by adherent intestines; pus-pockets in the same locality as the last, but usually more thoroughly enclosed by a wall of lymph. Tumors or other possible conditions: parovarian simple cyst; parovarian papillomata; small cystic tumor of ovary; small dermoid cyst; fibroid tumors of uterus; fæcal collections; hæmatocele (intraperitoneal). Cellulitis proper: Periproctitis and perityphlitis; psoas abscess, descending; abscess around vermiform appendix, descending; infected wound of cervix and vagina. Inflammation of hæmatocele (extraperitoneal), or of tubal pregnancy (after rupture between the folds of the broad ligament).

The differential diagnosis of the above affections is often difficult and sometimes impossible without an exploratory incision. Very frequently two or more of them are combined; *e. g.*, the chief cause of suffering in a case of fibroid (myoma) of the uterus may be, and often is, a complication with pyosalpinx.

So also a tube in a state of moderate catarrhal salpingitis may, when nearly healed, become the abode of a tubal pregnancy, and this in turn may, by rupture, lead to a pelvic hæmatocele, and to severe attacks of pelvic peritonitis.

It would unduly prolong this paper to discuss elaborately the subject of differential diagnosis, but there is one point in the symptoms or history of the case which always leads us to suspect tubal disease, and that is the occurrence of *fever*. The patient usually can give a very definite answer to the questions, Did you ever have inflammation of the bowels? How long were you confined to bed by it? Did any matter form and break? Then there will be a history of repeated attacks of pelvic pain with fever, of severe and repeated suffering during the menstrual periods, of lameness, backache, etc. Usually or always in old cases there is a history of repeated and fruitless attempts at mechanical assistance: the patient cannot wear any pessary; Drs. A. B. C. and X. Y. Z. have tried to fit pessaries, but they all hurt her, and often she has been very ill after the womb was "raised up with an instrument."

The patient is said to have an adherent retroversion: "her womb is grown on to the back passage," or there is an anteversion or lateral-version.

In severe cases there is a recent history of supuration. The patient is found in bed, with the symptoms described by the ancient authors above mentioned, who, be it said, also describe at great length the hard masses which remain unless the "peccant" matters are properly "concocted" and eliminated. Or there is a fistula, continually or occasionally discharging pus; in the latter case there is usually an account of attacks of pain and fever whenever the fistula closes.

It is very difficult to describe exactly the feeling on bimanual examination; by repeated practice a certain familiarity with the pelvic organs and their relations is acquired which cannot easily be adequately conveyed in language.

The first thing observed is that the examination is painful to the patient. The uterus appears displaced: at first it seems retroverted, but by careful examination it is usually found that the fundus is anteverted and often drawn to one side, showing that the tender mass behind, and lateral to the uterus, must be something which does not belong there.

Now small ovarian tumors, dermoid cysts, and cysts of the broad ligament do not give rise to fever, and are not usually painful to the touch; the same may be said of fibroid tumors when small and sub-peritoneal; tubal pregnancy can usually be excluded, especially in chronic cases; the tumors of simple hydrosalpinx are not fixed but movable, "pelvic cellulitis," *i. e.*, inflammatory effusion between the folds of the broad ligament, is practically a myth; pelvic hæmatocele has a characteristic history and course. Therefore, by exclusion we arrive at a pretty clear diagnosis of salpingitis and consequent localized peritonitis.

Especially is this opinion confirmed when an-

other mass is found on the other side of the uterus, also tender, fixed and chronic. The only double tumors likely to be found on both sides, except distended tubes, are double papillomata of the broad ligaments and double dermoids, both of which, by their lack of fever and tenderness, and by their steady growth, soon differentiate themselves from tubes, and require an operation which settles the diagnosis.

It is often desirable, especially before deciding on an operation for removal of diseased tubes, to examine the patient under anæsthesia; the relaxation of the abdominal walls, and of the muscular floor of the pelvis, and the consequent relief of the pelvic organs from pressure, wonderfully facilitate the examination, which is completed by a rectal examination, with two fingers in the rectum, the thumb in the vagina, and the other hand on the abdomen. I may here observe that great care must be taken not to rupture the pus-tubes nor to squeeze out pus from imperfectly occluded fimbriated extremities. Such an occurrence might easily be, and in fact has frequently been, followed by a severe or even fatal peritonitis.

In such an examination the first landmark to be sought for is the fundus of the uterus; just as in the corresponding operation for removal of the tubes, we start out from the fundus to determine their position, size and attachment. In normal cases, especially under anæsthesia, the tubes can usually be felt at either cornu, forming, with the round ligaments, bodies which feel about as large as lead pencils, which can be rolled, under the fingers, and moved freely about. After an attack of gonorrhœa their increase in size and hardness can often be observed long before acute perimetritic symptoms develop.

In catarrhal salpingitis, where the fimbriated extremities are occluded and the tubes are distended, they can be traced as soft, sausage-shaped bodies at the sides of and behind the uterus, sometimes quite large, but usually freely movable and not very tender to the touch.

In pyosalpinx, however, they are more apt to be fixed by repeated attacks of pelvic peritonitis; the tubes fall down behind the ovaries, as described so well by Wylie, and are glued to them; the left tube generally gets first into Douglas's pouch and keeps the other out; tube, ovary, and effused lymph form a mass of a size widely varying from that of an egg to that of the two fists or larger; on one side this blocks up the pouch of Douglas and presses on the rectum and bulges down behind the uterus; on the other it may lie further forward, even at the brim of the pelvis, where it is readily felt as a lump in the iliac region. If the tubes and the neighboring adhesions contain much pus, fluctuation may be distinctly felt, with the well known symptoms of pelvic abscess; more frequently the mass is hard

or doughy; often it varies from week to week as pus and serum distend the tube and the surrounding pockets, and then are gradually absorbed again.

That is the real nature of pelvic cellulitis, and nothing is more surprising and convincing than to feel from the vagina the disappearance of a mass, supposed to be in the areolar tissue of the broad ligament, as the operator unrolls and shells out a brace of pus-tubes.

It may be said that there is nothing new in all this. Such affections of the tubes are described by Bernutz and Aran, by Kiwisch, and Ed. Martin and Klob, and by many others. That is true; but what is comparatively new is the realizing sense on the part of the profession that the tubal affections are the origin and not the consequence of the pelvic peritonitis, that the former come directly from the passage of infection from the uterus into the tubes. From this last fact results a growing appreciation of the danger of infection from gonorrhœa and from sounds and instruments. The pithy remark of Credé, "that he who does not examine a woman does not infect her," is well worthy of remembrance, both in regard to obstetrical and gynecological work. I purposely say little as to the causes and symptoms of the disease; are they not written in all the books? It is all an infection from one cause or another.

The immense importance of gonorrhœal infection in causing tubal disease, is becoming more and more appreciated, both by the profession and the public, and the erring husband who hereafter infects his wife will receive the execration he deserves. An important duty rests on the members of the profession in duly impressing on men the danger of infecting their wives even after they themselves seem to be cured.

But it will be said that this explanation may suffice for old, chronic cases, which are operated on either for severe inflammatory attacks or for unendurable pain and loss of health. But how about the cases which are "resolved" and get well? How about a woman who "catches cold" after "local treatment" and runs through a course of cellulitis, where there is a mass in the pelvis as big as a child's head at term, the uterus fixed, the roof of the vagina hard? This cannot be a tube, neither is it an abscess, for it does not suppurate, but under expectant and soothing treatment it all goes away.

Now these cases are frequent, and in the first place very many or most of them do not get well entirely, but have a mass of adhesions and a disease of the tubes left, which cause sterility and future trouble. Some do get well, however, and bear children. What is such a mass? Is it not in the areolar tissue? No, the mass is inside the cavity of the peritoneum. It is chiefly one or more serous cysts, bounded by the peritoneum be-

low, and above by adhesions and by coils of intestines. The hardness is caused by involuntary contraction of the muscles, and by tenseness of the cyst; possibly to some extent by an infiltration of the adjacent "areolar" tissue with oedematous fluid; the origin is in the tube and the cause is the "treatment."

Another group of cases too important to be more than mentioned to-night are cases classed as cellulitis which followed labor or abortion. Here again every one, in discussing the subject, admits a puerperal "cellulitis" of the "areolar tissue," but how many are seen post-mortem. Besides the cases of acute septicæmia, thrombosis, etc., when there is peritonitis what is found at autopsy? Just what Ruysch found (Obs. 43, 84, 85) a collection of foul matter in the *pelvis*, the tubes diseased and similar matter in the tubes and uterus. Most of these patients die; although in some the matters are shut out from the general abdominal cavity, a pelvic abscess results which is not between the folds of the broad ligament; if this matter is evacuated the diseased tubes remain, and may give rise to continual trouble afterward. In some cases a condition of comparative comfort results, but the diseased tubes can be detected long afterwards in very, very many cases in women who never recover their health perfectly.

Very lately, Tait has operated on a series of these puerperal cases. He reported eight in June last,⁶ with two deaths. J. Price (and perhaps others) has followed him in this country, having operated, as he writes me, on seven puerperal cases up to the present time, with two deaths. In all the cases there was no sign of disease between the folds of the broad ligament; salpingitis and pelvic peritonitis were what were found.

I saw myself one of M. Price's operations on a woman with pelvic inflammation after abortion, and I shall never forget the hugely distended pus tubes, large as Bologna sausages, which were shelled out, while the pelvis was full of stinking pus in pockets running up between the intestines in all directions; it was, as Ruysch said, "*colluries humorum non sine magno fetore*." Here is a great field in the future for the snatching of women from almost certain death by an operation which, *if not deferred until too late*, offers a good prospect of relief.

MEDICAL PROGRESS.

POISON IN THE BREATH.—MM. BROWN-SÉQUARD and D'ARSONVAL have reported to the Academy of Science the results of new experiments that show the poison or poisons which escape with the breath can become fatal in small quantities, even if not injected directly into the

venous or arterial blood. Injected subcutaneously the fluid containing this poison proved fatal to 17 out of 18 rabbits in doses of 16–44 cc.; in two-thirds death ensued in from 12 to 24 hours after the injection. But even when injected into the rectum and the stomach the liquid may cause death, but this occurred only in 2 out of 7 which had from 24–36 cc. introduced into the stomach. According to these eminent physiologists this toxic power is not ascribable to the presence of microbes in the fluid, for it is equally poisonous after it has been subjected to a temperature of 100°. They consider it certain that the carbonic acid in the breath has no share in its toxic qualities.

The ingenious apparatus which was used for these experiments consists of a number of metallic vessels which were made absolutely air-tight. An air-pump connected with a gasometer sends a continuous current through these vessels, which are connected with one another in such a way that the current of air passes them successively. Thus and animal placed in the vessel into which the outer air enters breathes the pure air, whilst all the other animals placed in the other vessels breathe air more or less vitiated. It is evident that the last animal breathes the air that has passed through all the other vessels, whilst the second animal, for instance, breathes the air of the first vessel only. Each vessel consists of a vertical cylinder of galvanized sheet-iron, large enough to hold a good-sized rabbit; a conical funnel receives the dejections of the animal and the remnants of food and dumps them into an earthen vessel likewise air-tight. Young rabbits (from 5 to 7 weeks old) which were shut up in these vessels died rapidly, except those in the first and second vessel. In some instances the rabbits in the 7th and 8th, and even that in the 6th perished in two or three days. On an average one week killed the animal in the 4th, and a few days later that in the 3d died. The rabbits in the 1st and 2d survived for a long time and finally died accidentally. When a rabbit which was almost dying in one of the vessels, 3, 4, 5, 6, 7 or 8, was taken out it generally revived and regained its health, but only after a long time. The quantity of carbonic acid which was considerably under 1 per cent. in vessel No. 2, was generally but little over 2 or 3 per cent. in vessels 6, 7 and 8. With a more rapid current there was sometimes even less carbonic acid in the last vessels.

"By numerous experiments we have assured ourselves that pure carbonic acid may be inhaled with the atmospheric air in considerable quantities by human beings, dogs, rabbits, and other mammaliæ. We have ourselves been able to breathe from one to two hours in an atmosphere charged with 20 per cent. of CO₂ without being noticeably affected, and especially without any lasting effect.

⁶Ann. of Gyn., June, 1888

"By altering our apparatus through the addition of two supplementary parts we could introduce into the cylinder the air from vessel 6 after it had been subjected to the action of sulphuric acid. The latter takes up the pulmonary poison and the organic substances (whatever they may be) which issued from the first six vessels, whilst the carbonic acid becomes free. The air passing into the two supplementary vessels is therefore free from the pulmonary poison but charged with carbonic acid. Now this air is not fatal, and we possess in this fact a proof, at the same time, of the harmlessness of carbonic acid and of the toxic power of pulmonary poison.

"In these experiments death ensued in the same way as where the liquid was administered subcutaneously or otherwise; painless and almost without convulsions. The autopsy showed that the animal died from the stoppage of the exchanges between the tissues and the blood.

"The question arises whether the death of the animals in these experiments was due to a poison issuing from the lungs. It is easily answered. The symptoms and the condition of the organs after death are the same as those found in animals to which the fluid had been administered subcutaneously or otherwise. That there exists in confined air other causes capable of affecting health we do not deny, but it seems to us, for the reason above stated, that in these experiments death was due principally, if not exclusively, to the breathing of air which had been inhaled and confined for several days.—*Journal d'Hygiène*, vol. xiv, No. 651.

ESCHSCHOLTZIA CALIFORNICA.—In 1887 STANISLAUS MARTIN endeavored in vain, in the *Bull. génér. de Thérap.*, to call the attention of physicians to this plant, which is used as a sedative in some localities. More recently TER-ZAKARIANT, at the instance of Dujardin-Beaumetz, has made an examination of it which resulted as follows: *Eschscholtzia Californica*, of the family of Papaveraceæ, is a shrub-like plant indigenous to North America, and especially common in California, with no less than ten slightly different varieties. (Greene.)

One hundred parts of this plant yield an average of 20 grm. of an alcoholic, resinous, dark-green extract, of a pleasant smell and bitter taste, which is perfectly soluble with alcohol, largely so in water, only partly soluble in glycerine, and insoluble in chloroform and ether. In water 100 parts of the plant yield about 15 grms. of extract. This latter is reddish-brown in color, having the same smell and taste as the alcoholic extract; dissolves in water, alcohol and glycerine, but is insoluble in ether or chloroform.

Bardet and Adrian isolated from the plant a base contained in the drogue in lesser quantity, which they think is morphine, and in larger

quantity, an alkaloid, and a glycosoid. Experiments on animals made with the alcoholic and the watery extract showed that these extracts were effective only in comparatively large doses.

Doses of 2.5 gr. subcutaneously, and of 6.0 gr. internally pro kilo of animal were toxic. Smaller doses affect only the brain, the animal sitting motionless, deprived of will and entirely oblivious to their surroundings. Larger doses affect the medulla oblongata, the spinal marrow and the peripheral nerves. Constant symptoms are: general debility, torpor, acceleration of respiration, subsequent slowing of the same, complete paralysis of the extremities and slowing of the circulation. The sensory nerves are paralyzed after the motor-nerves and regain their sensibility sooner. The body-temperature is increased by the alcoholic-resinous extract and reduced by the extract when freed from resinous substances, by about 1° C.

After therapeutic experiments made with the alcoholic extract on 13 patients (chron. bronchitis, phthisis, morbus brightii, ischias, paralysis agitans, rheumatism), Ter-Zakariant designates *eschscholtzia* as a valuable and harmless somniferous substance, and as an analgesic extremely useful in certain cases, whose effect outlasts the time of its application and is free from the undesirable qualities of morphine. Large doses seem necessary: 2.5 to 10 gr. daily, even 12 gr. have been given.

Further experiments will be necessary to form a conclusive opinion regarding the value of this new remedy.—*Therapeutische Monatshefte*, March, 1889.

MICROÖRGANISMS IN THE GENITAL CHANNEL OF THE HEALTHY WOMAN.—WINTER publishes a careful work in which he attempts to answer the questions: 1, in what parts of the genital channel of the healthy woman are bacteria found; 2, of what kind are they; 3, are any among them pathogenic. In forty Fallopian tubes which were obtained during operations, no microorganisms were found. Of thirty extirpated uteri twenty-two were likewise found free from bacteria, whilst in eight cases they doubtless got into the uterus through previous digital or sound examinations. The cervix examinations made on living individuals showed microorganisms (cocci and bacilli); the latter largely increased in number during pregnancy. The same was true of the vagina. The inner os of the uterus forms, consequently, the border between the parts infested with bacteria and those free from bacteria. As regards the question of pathogeny, the pus cocci (staphylococci) were found in one-half of the cases in the secretions. But the experiments with vaccination proved them to be of lessened virulence, probably being weakened by the secretions of the other bacteria.

Of practical importance is the inference from

these tests that internal examinations of the uterus should be preceded by the most painstaking disinfection of the vagina and the cervix. It is shown that when substances subject to decomposition: blood, ovarian membranes and remnants of the placenta, are present in the uterine cavity, self-infection may take place through spreading of pathogenic germs from the vagina.—*Correspondenz-Blatt für Schweizer Aerzte*, March 15, 1889.

A RARE COMPLICATION IN INTESTINAL TYPHUS.—J. KARLINSKY (*Berliner klinische Wochenschrift*, 1888, No. 43) reports a case of typhus abdominalis in which, three weeks after the beginning of the disease, easily colored bacilli were found in the stools, which were nine μ long, single or arranged in chains of two or three links. In bouillon-cultures mostly 5-10 links appeared in a chain. In some of the bacilli spores could be distinctly seen. Subcutaneous injections of these bacilli killed young rabbits within two days. In the lymph of the animals, as also in the blood-vessels of the liver, the author found the same bacilli—which he takes for milzbrand-bacilli—in large quantities. Besides these microorganisms, streptococci and smaller bacilli were found in the fæces in small quantities. The patient died in thirty days from the beginning of the sickness.

The examination of the lower ileum and of the cæcum showed typical typhus abscesses, in the stomach and the remainder of the small intestine changes were found such as are occasionally seen in milzbrand. In the blood from the liver, in the spleen-veins, the veins on the surface of the stomach, in the spleen-juice, abundant milzbrand-bacilli were found. On gelatine and agar-cultures typical milzbrand colonies developed. The liver, the intestinal wall, and a part of the mesenteric glands contained large numbers of milzbrand-bacilli, whilst in the abscesses in the lower ileum and cæcum typhus-bacilli were found.

The author ascribes the milzbrand infection to the circumstance that the patient on the twentieth day had taken some milk which, as was proven on a searching investigation, had come from a cow affected with milzbrand.—*Centralblatt für Bakteriologie und Parasitenkunde*, Band v, No. 12.

ABOUT THE TREATMENT OF DIPHTHERIA WITH ACID SALICYL.—In a paper read Dec. 5, 1888, by PROF. D'ESPINE, before the Medical Society of Genf, the author explains a mode of treating diphtheria which—based on bacteriological investigations—he has pursued with the aid of Dr. de Marignac. These investigators found that Löffler's bacillus, which they consider as pathogenic for diphtheria, is killed by five minutes' contact with salicylic acid dissolved in water 1:2000. This substance is consequently used in the local treatment of diphtheritic affections of the throat, the false membranes of the naso-phar-

ynx being irrigated every hour or every two hours with a 1½ or 2 per cent. solution of salicylic acid. The irrigation was made through the mouth by means of an irrigator or a pear-shaped syringe, so that a sharp stream of the liquid bathed the false membranes; for the nose it was deemed sufficient to pour tablespoonfuls of the solution into it; from 1 to 2 litres of the solution are to be used in the first twenty-four hours of treatment. The method of irrigation has the advantage of an energetic application of the remedy without causing injury and opening gates for infection. A few hours of this treatment are said to be often sufficient to break up the fever, and after two or three days the throat usually throws off the false membranes. An early beginning with this treatment is of importance; the author recommends, in cases of epidemics of diphtheria, to treat prophylactically cases of apparently simple angina in the same manner.

Even before d'Espine salicylic acid has been used for diphtheria, but the application of large quantities of liquid by means of an irrigator is new, and this mode of application seems to prove very effective in practice. E. Kummer, of Genf, has found the treatment decidedly beneficial in several cases, and invites further experiments.—*Correspondenz-Blatt für Schweizer Aerzte*, March 15, 1889.

CONCERNING THE ETIOLOGY OF PUS-FORMATION.—JUL. STEINHAUS, in the *Zeitschrift für Hygiene*, Bd. V, Heft 3, reports that he found in the contents of an abscess large quantities of the well-known micrococcus tetragenus, whilst the bacteria usually occurring in pus, staphylococci and streptococci, were altogether missing. Steinhaus thinks, therefore, that the micrococcus tetragenus, under certain conditions, might become a cause of purulent processes in man.

The experiments which led him to take this view cannot be considered as conclusive proofs, as he failed to establish such a result through plate culture. Steinhaus made only "two tube-cultures on gelatine" directly from the pus, and thereby made the same mistake which, though often sharply criticised, is repeated over and over again. In the examination of the pus plate-cultures would now show us, perhaps, preponderating colonies of the micrococcus tetragenus, but also here and there some of the streptococcus, and would thus point out the real condition of affairs. In tube-cultures, however, the rapidly growing micrococcus tetragenus strangles the slowly growing streptococcus and deprives it of the ability to make itself known in any way, so that an erroneous conclusion becomes unavoidable.—*Centralblatt für Bakteriologie und Parasitenkunde*, Band V, No. 12.

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INFLUENCE OF CLIMATE ON PHTHISIS.

In THE JOURNAL of last week attention was directed to the reprint edition of DR. CHARLES DENISON's paper on the "Preferable Climate for Phthisis," read in the Section of Demography of the Ninth International Medical Congress, Washington, 1887. Attention was then directed to the chief elements that, in varying combinations, determine the special character of the climate in any given locality. The combination of these elements claimed by Dr. Denison as constituting the preferable climate for patients affected with phthisis is, purity, rarefaction, dryness, coolness, variability, uneven or mountainous surfaces, with gravelly or porous soil. The purity of the atmosphere or freedom from intermixture with foreign ingredients increases with the altitude above the sea level, and according to the observations of Miquel, becomes entirely free from bacteria or organic germs at an elevation above 2,000 metres (ft. 6,560). At 560 metres (ft. 1,700) he found only 8 bacteria to 10 cubic metres of air, while in the streets of Paris, near the level of the sea, he found no less than 55,000 to 10 cubic metres of air. The observations were all made in the month of July, 1883. It may be inferred, therefore, that the higher altitudes are very unfavorable for the propagation of bacillus tuberculosis, as well as ordinary bacteria.

The greater the rarefaction of the air, the less amount of oxygen is contained in a cubic foot, and the more active the respiratory movements become in order to supply the blood with the re-

quired amount of oxygen in a given time. It is this increased activity of the respiratory movements in breathing the rarefied air of high altitudes that tends strongly to expand the chest, and makes it specially beneficial to those young persons with chests flattened beneath the clavicles and plainly predisposed to phthisis, and to all cases while in the stage of primary unsoftened tubercular deposit. But when the capacity of the lungs is already diminished one-third or one-half by extensive tubercular infiltrations in the stage of purulent softening and hectic fever, or by the sclerosis of pulmonary tissue called by some chronic interstitial pneumonia and by others fibroid phthisis, it becomes impossible for the patient to inhale the necessary increased quantity of rarefied air, and persistence in the attempt generally hastens the fatal result. The coolness and dryness of the atmosphere generally increases with the altitude, and are usually found in coincidence with rarefaction. It is a familiar law that the dryer the air at a given temperature the more rapidly will it absorb aqueous vapor from moistened surfaces. Hence if we inhale an atmosphere already saturated with moisture it will return by exhalation in the same condition, having absorbed nothing from the moistened pulmonary surfaces. On the other hand the dryer the air inhaled the greater will be the amount of aqueous vapor and such other matters as may be in solution therein, that will be absorbed and removed with the exhaled air. That Dr. Denison is correct in claiming that cool and variable atmospheric conditions are more beneficial to consumptives and other debilitated patients, than warm and uniform conditions are, we have no doubt. Continuous heat expands the tissues and thereby causes relaxation and debility; while continuous cold constricts or condenses the structures and soon lessens the activity of all the functions. Coolness, with frequent variations within moderate limits, contributes far more to the maintenance of functional activity and strength, and thereby acts in harmony with rarefaction and dryness at high altitudes.

Without pursuing these elementary considerations further, we may suggest the following rules for the guidance of the practitioner in his dealing with the question of climates and phthisis:

1st. Ascertain by thorough physical examination the degree of development of the chest and

the actual condition of the lungs in reference to the existence of tuberculous deposits or other structural changes, their extent and stage of progress.

2. If the patient presents only a narrow chest and defective muscular development without appreciable changes in the pulmonary structures, a residence in the pure, cool, dry, rarefied and variable atmosphere of the mountains at altitudes between 4,000 and 6,000 feet, at almost any point between Manitau in Colorado and San Antonio in Texas, with an outdoor occupation, will be most certain to establish in him a healthy, vigorous physical condition.

3. If the patient is found to have only a moderate amount of crude unsoftened tubercular deposit; or if he has deposit in the softened and suppurative stage limited strictly to the apex or upper part of *one* lung, leaving the other lung healthy, and his total lung capacity for air not diminished more than one-tenth, his chances of recovery will be secured in the highest degree by a residence in the same climatic conditions named in the preceding paragraph. The patients indicated in this and the preceding paragraph will also generally be restored by long sea voyages extending through a wide range of latitude, provided they take such daily exercises of the muscles of the chest and arms as will favor increased capacity of the chest.

4. If the patient is found to have pretty extensive tubercular deposits in both lungs, with distinct indications of commencing softening, the chest capacity for air diminished one-fifth or more, and more or less fever, he cannot be safely sent at once to the high altitudes of Colorado, New Mexico, etc. As pure, dry and mild air as can be found at lower levels should be chosen. The more moderate altitudes found in the mountain districts of North and South Carolina, Georgia and East Tennessee for the summer, and the interior of Florida, southern part of California and some parts of Texas for the winter months, are best suited to such a patient, and will often arrest the further progress of the disease.

5. If, however, a careful examination of the patient shows extensive deposits or consolidation involving one-half or even one-third of both lungs, with suppurative cavities in both, copious purulent expectoration, hectic fever, and extreme emaciation, he should be candidly advised to make

himself as comfortable as possible at his home and with his friends, if he have any, instead of exhausting what little breathing capacity he has left in a vain struggle to reach a better climate and finally perishing among strangers.

6. To whatever climate it is deemed best that a patient should go, if it is found to influence him favorably, he should be strongly advised to take up his residence there from one to five years at least. One of the most important causes of failure to get permanent recoveries by change of climate, is the persistency of patients in returning home and to the same habits and surroundings as before, as soon as the more manifest and troublesome symptoms of disease have subsided; and consequently, in four cases out of five, the disease renews its advancement after a few months.

MILROY'S MEDIO-TARSAL AMPUTATION.

Under this title was published, in *THE JOURNAL* of March 30, in the columns for Medical Progress, the report of a case copied from the *Glasgow Medical Journal*, of March, 1889. The case was one of medio-tarsal amputation performed on account of severe injury of the foot, by DR. MILROY, of Kilwinning, Scotland, September 7, 1885, and reported by him to the Surgical Section of the Medico-Chirurgical Society of Glasgow, January 25, 1889. It was spoken of as a *new* operation, and its advantages compared with those of the operations of Chopart, Syme and others.

Since the appearance of Dr. Milroy's case in this journal, our attention has been called to the fact that an operation nearly identical with it, had been performed several times prior to 1874 by DR. S. F. FORBES, of Toledo, Ohio, and the operation fully described by him in a paper read at the annual Meeting of the Ohio State Medical Society in 1874. The report was published in the Transactions of the Society for that year, illustrated by a cut; and to do justice to Dr. Forbes we renew attention to his work by making the following quotations from his paper. He describes his operation as follows:

"The flaps being made as in Chopart's operation, that is by an anterior and posterior flap, one horn of which should commence on the inner side of the foot opposite the tubercle of the scaphoid bone, and the other terminate on the outer border

or tubercle of the cuboid, and the flaps, being well reflected back, the knife, a stout, straight bistoury, should be entered between the scaphoid behind and the internal cuneiform bone in front, and carried onward between the cuneiform bones and the scaphoid until the cuboid is reached. Twisting the foot well outward with the left hand of the operator will facilitate the movement of the knife along the articulations mentioned. Having arrived at the cuboid the knife should give place to the saw, when the cuboid should be sawn squarely across, and the operation is completed. Should any difficulty be experienced in passing the knife along the external cuneiform the saw can at once be resorted to, and any portion of this bone which may be left in the stump can readily be dissected out. . . .

"By examining the bones of the foot it will be seen that where the scaphoid and a portion of the cuboid is left in the stump (as in this operation I am describing) each bone has a bold prominence or tubercle on its under surface which is of great service to the patient in walking ever after, a point not to be lost sight of by the surgeon."

After describing certain items of after-treatment and modes of dressing, Dr. Forbes sums up the results and advantages of his operation as follows:

"There are several persons in this vicinity upon whom the operation I have spoken of has been performed, when wearing an ordinary shoe with the front filled with cork, whose gait and carriage are so steady that it would be quite impossible for even a surgeon to say upon which limb the operation had been performed. These persons engage in railroading, farming, etc., without crutch or cane, and with so little inconvenience, apparently, as not to notice they have suffered any loss.

"The points I seek to make in this paper are, that I propose an operation which is easier of execution than any other recognized amputation through the tarsus, that the stump resulting is as good as that left after Hey's operation, and that by reason of leaving the tubercles of the scaphoid and cuboid bones it is always better than the stump left after Chopart's operation; further, that the bony column behind the cuneiform bones should never be sacrificed to the demands of coverings except in cases of imperative necessity; and, lastly, that upon the treatment after the op-

eration depends in a great degree the future usefulness of the limb."

The critical reader will observe that Drs. Forbes and Milroy both separate the scaphoid from the cuneiform bones, the former completes the operation by sawing directly through the cuboid, while the latter disarticulates it.

THE ILLINOIS STATE BOARD OF HEALTH AND THE STATE LEGISLATURE.

The House of Representatives of the Illinois State Legislature appears to have developed a decided opposition to the State Board of Health, by striking out of the general appropriation bill all provision for the support of the Board for the next two years, and by a proposition that is still pending, to repeal Section 11 of the Medical Practice Act. This Section is the one prohibiting all traveling or itinerant medicine vendors to ply their vocation in the State unless they obtain a license from the State Board, for which they must pay \$100 per month. From the tenor of the discussions in the Legislature, it appears that the opposition originates mainly from the idea that the Board has been interfering too much with the sacred right of the people to be *humbugged*; and with the equally inalienable right of medical impostors to obtain money under false pretenses. While we think the Illinois State Board of Health might have done more to educate the people of the State in sanitary matters by adopting some of the methods practiced successfully by the Michigan State Board, and that some of the provisions of the law could be greatly improved by judicious amendments, we can find no apology for the present line of opposition developed in one branch of the Legislature. If a State law for regulating medical practice and protecting the public health is defective, amend it. If the law is useless, repeal it. If the Board appointed to execute the law is inefficient, reorganize it. But do not adopt the disreputable method of starvation by withholding supplies.

EDITORIAL NOTES.

DEATH OF M. CHEVREUL, the oldest, and one of the most eminent chemists of France, at the age of 103 years. A press despatch, dated Paris, April, 9, 1889, makes the following announcement:

"M. Michel Eugene Chevreul, the distinguished

French chemist, is dead. He was born in Angiers Aug. 1, 1786. Having completed his studies in the Central school of that place, at the age of 19 he went to Paris, where he was engaged in the chemical factory of the celebrated Vauquelin, who discovered in his young pupil such aptitude and sagacity that he intrusted the direction of his laboratory to him. In 1810 he was preparator of the chemical course in the Museum of Natural History, and in 1813 was appointed professor in the Lycee Charlemagne, and officer of the university. In 1824 he was made director of the dyeries and professor of special chemistry in the carpet manufactory of the Gobelins, where he had leisure to follow his favorite pursuits into detail, one of which was his investigation of animal oils, or grease. In 1823 M. Chevreul published a work on this subject, for which the Society for the Encouragement of National Industry awarded him the prize of 12,000 francs. M. Chevreul has written various scientific works, some of which have been translated into various European languages. M. Chevreul had contributed to the proceedings of scientific societies, to dictionaries, and to other works. In 1830 M. Chevreul succeeded his former master, Vauquelin, in the Chair of Chemistry at the Museum of Natural History, since which time he has become Fellow of the Royal Society of London and President of the Society of Agriculture. In 1864 he was appointed director of the Museum of Natural History for five years, and in 1869 reappointed for another quinquennial period. He was made Commander of the Legion of Honor Sept. 24, 1849."

DR. EDWARD T. BRUEN, Assistant Professor of Physical Diagnosis in the University of Pennsylvania, died of pneumonia, March 31, 1889, at the early age of 39 years. He was the author of a creditable work on the "Physical Diagnosis of the Heart and Lungs," and visiting physician to the Philadelphia and German Hospitals.

A PROBLEM IN MATHEMATICS.—If all the sources of water supply to the chain of great lakes to which lake Michigan belongs remain the same, and the present avenues of exit the same, while a new channel is cut from the lake just named southward, permitting the constant discharge of 500,000 cubic feet of water per minute, how long would it take to lower the water level in the lakes three feet, and to what extent would

such change in the lake level diminish the rate of discharge through the artificial channel?

THE MEDICO-CHIRURGICAL FACULTY OF THE STATE OF MARYLAND will hold its next annual meeting in Baltimore, Md., commencing on Tuesday, April 23, 1889, and continue three days. The Annual Address is to be delivered by Prof. Wm. Osler, of the Johns Hopkins University, on the "License to Practice with reference to State Examining Boards."

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Stated Meeting, January 23, 1889.

THE PRESIDENT, W. W. KEEN, M.D., IN
THE CHAIR.

(Concluded from page 532.)

DR. EUGENE P. BERNARDY read a paper on
BINIODIDE OF MERCURY. ITS ANTISEPTIC USE.
OBSTETRICAL CASES.

Case 1.—Mrs. L., æt. 19, first pregnancy; was called to attend her (January 24, 1886) in a premature labor; she was pregnant about six and a half months; when I arrived, I found she had been delivered of a dead male child; the placenta came away in two hours; the patient did well up to the evening of January 27, when she was taken with a chill, which was repeated in three hours; when I saw her on the morning of the 28th, her skin was hot and dry, face flushed, pulse 112, temperature 102°; tongue thickly furred, abdomen slightly swollen and very sensitive; lochia offensive. Ordered quinae sulph., gr. xx.; morphine sulph., gr. ¼ night and morning; poultice over abdomen, and hot vaginal injections of 1 to 4,000 solution of the biniodide of mercury every four hours; at the second injection the discharges became free from any odor. January 29, pulse 100, temperature normal. This treatment was kept up, with the exception of the large doses of quinine, to October 5, when the injections were reduced to one a day for about four days, when the patient was discharged cured.

I have confined this case since of a full-term, living child; the biniodide injections were used at once; she had a good lying-in; discharged on the ninth day, well. (The above case really belongs to my second series, but the manuscript was mislaid at the time, and found too late to be incorporated in my second paper.)

Case 2.—Mrs. M., æt. 35; fifth confinement;

during her pregnancy she had worked very hard, doing almost the work of a man. Was called to attend her in labor, March 18, 1886; when I arrived at her bedside I found she had been in labor since the previous day; she appeared completely worn out, having hardly any strength to bear down; the family refused positively instrumental interference. I gave two doses of the fluid extract of ergot, teaspoonful, repeated in half an hour; under its influence the child was born; the placenta soon followed.

The patient did well up to March 24, when, in the evening, she had a severe chill, which again occurred the following morning (March 25). I saw the patient on the following day; She seemed to have aged fully ten years; her face was drawn, and of a deep yellow color, eyes bright and sparkling with delirium; pulse 140, temperature 105°; the abdomen was immensely swollen, and could not bear to be touched, more especially on the right side. Diagnosed metro-peritonitis. Lochia arrested. Ordered quiniæ sulphatis, gr. xx, night and morning; morphia sulphatis, gr. ʒi, whenever pain was severe; hot poultice over the abdomen, hot vaginal injections of 1 to 4,000 solution of biniodide of mercury. March 28, pulse 120, temperature 101°; lochia returning, abdomen not so sensitive. This treatment was continued up to March 31; the abdomen now allowed of closer examination; in the right inguinal region could be detected a large mass; vaginal examination showed the uterus bound down and completely surrounded by lymph. Dr. W. Goodell, being called in consultation, verified the diagnosis. The biniodide injections to be continued; internally, quinine sulph., gr. iij three times a day, besides an alterative tonic. The patient gradually recovered her health, without any additional treatment.

In this case the injections of the biniodide were constantly used for over a space of three weeks, first every four hours, then three times a day, then once a day, without the slightest systemic action of the drug occurring.

Case 3.—On July 11, 1886, I was asked to see Mrs. W., in consultation with her family physician; on entering the house a most sickening odor struck my nostrils; it reminded me of uterine cancer in its last stage; the more I advanced, the worse the odor became; at last I reached the room and bedside of the patient; of all odors I never want to smell the like again; as the nurse remarked, it was worse than decayed carrion; how the patient lived through such a condition was simply miraculous.

I found she had aborted about two weeks previously, and had declined any interference in regard to extracting the placenta, saying, "it will come away." On examination, I found the vagina full of sticky, horribly-smelling, broken-down placental tissue, the mouth of the uterus opened,

the uterus full of the same kind of material as found in the vagina; the patient declined the use of any instruments, so I broke down and pulled out all that came within reach of my finger; I then washed out the uterus with a hot 1 to 4,000 solution of the biniodide of mercury; not yet satisfied, I washed out the parts with another quart of the solution (1 to 4,000, until the water came back clear.

I did not see the case again, and, in answer to a letter to the attendant physician, I received the following:

"Philadelphia, May 20, 1887.

"*My Dear Doctor:* I am glad to inform you that Mrs. W. did very well. The *iodide of mercury pellets* acted like a charm. There was no unpleasant odor attached to the discharges after we began their employment. . . . I have been an ardent advocate of potassium permanganate, but I am now a convert to the biniodide as an antiseptic."

Case 4.—Mrs. H., primipara, æt. 30, fell in labor November 18, 1886. On my arrival at her bedside I found she had been in labor for some time, the mouth of the uterus wide open, bag of waters unruptured, vertex presentation. On making abdominal palpation, detected at once a twin pregnancy. After a somewhat lingering labor the first child (boy) was born. On examination, I found the second child (girl) presenting with vertex left posterior. The head came down very slowly, and, on the solicitations of the patient and family, the labor was terminated with forceps. The patient did well up to the evening of the second day, when, about midnight, she was taken with severe frontal headache and chills. I saw the patient in the chill; half an hour after her temperature was 104°, pulse 140; delirious. Ordered quinine sulphat., gr. xx, at once, and repeat next morning. Next day (November 21), temperature and pulse the same, completely out of her mind; lochia almost ceased flowing, and what was present was offensive; abdomen extremely sensitive to the touch. Ordered the quinine to be continued, gtts. x tr. digitalis four times a day, hot flaxseed-meal poultices over abdomen, hot injections in the vagina of 1 to 4,000 biniodide of mercury every four hours. The following day the lochia returned normal. The condition of things remained about the same up to November 25, when the symptoms were improved. The patient was discharged well December 4, 1886.

(The following case is the first patient on whom I used the biniodide of mercury injections, and whose history is given in my first paper, June 4, 1885.)

Case 5.—Mrs. D., third confinement (being compelled to leave the city, she fell into the hands of another physician), fell in labor September 6, 1886. After a lingering labor she was delivered

of a stillborn child. On the second day, as far as I can learn, all the symptoms of an attack of puerperal fever set in; she remained very sick for several days. No vaginal injections of any kind were used. When I saw the patient, on September 19, 1886, she was suffering with an extremely tender abdomen, more especially on the right side, on which side could be detected a small lump. Vaginal examination disclosed the uterus partially surrounded by lymph. Discharges from the vagina very offensive. Pulse 100, temperature 101° – 102° . Nothing could be retained on the stomach; as a drink, frozen champagne was ordered. Quinine sulphate, gr. x, once a day; equal parts of ungt. hydrarg. and belladonna to be rubbed over the abdomen once a day, followed by hot poultices, hot injections of the 1 to 4,000 biniodide three times a day. My following visit found my patient improved, and in a week was discharged, but it was some time before she regained her usual strength.

On November 1, 1887, I delivered the above patient, after an easy labor, of a large female child. Immediately after the placenta came away I washed the uterus out with a 1 to 4,000 injection of the biniodide. The injections were ordered to be used three times a day throughout the lying-in, which was perfectly normal, and the patient discharged, well and strong, on the ninth day.

Case 6.—Mrs. C., æt. 19; first pregnancy; was called to attend her on the morning of August 19, 1888. After an easy labor she was delivered in the afternoon of a large male child; the placenta came away in about twenty minutes. The following day the patient was doing well, but had not been washed, and the odor in the room was very disagreeable. On my following visit I found the patient in a high fever, temperature 103° , pulse 130, full and quick; tongue dry and chippy. The skin from the posterior part of the vulva back to beyond the anus was raw and covered with minute bloody points; abdomen very tender; lochia, what there was, extremely offensive.

On close inquiry I found that the mother of the patient, who was supposed to be nurse, had gone on a drunken debauch since the birth of the child, no doubt celebrating her "grandmotherhood." The patient was placed at once in charge of a competent nurse; hot poultices were ordered to the abdomen; quinine sulph., gr. v, morphia sulph., gr. $\frac{1}{4}$, every four hours; hot injections in the vagina of 1 to 4,000 biniodide of mercury every three or four hours. Equal parts of zinc ointment and Goulard's cerate were applied over the raw surface.

August 24, pulse 110, temperature 101° ; lochia coming freely and without odor. August 26, pulse 100, temperature 99° ; 4 P.M., pulse 100, temperature 101° . Condition better, treatment continued; patient discharged, entirely cured, September 1, 1888.

With the three cases reported in my first paper, eight in my second, and the six cases just detailed, in all, seventeen (obstetrical) cases in which the biniodide of mercury had been employed, gives us, certainly, sufficient data to draw positive conclusions.

ABDOMINAL ABSCESS INTERCURRENT WITH TYPHOID FEVER.

Case.—On April 20, 1887, I was requested to see Mary B., aged 5 years. The little patient had been ailing for the past week, suffering from constant frontal headache, very feverish, loss of appetite, and having a diarrhœa. I found her in bed, with a temperature of 103° , very quick, compressible pulse, tongue dry, and a number of rose-colored spots over the abdomen and chest. The case was running the ordinary course of typhoid fever, when, on May 5th, the child was taken with a sudden, sharp pain in the right iliac region; my visit found the child suffering agonizing pain in the abdomen, which was tense and swollen; in the right iliac region could be felt a lump the size of an egg; under appropriate treatment the acute pain somewhat subsided. On May 8th my attention was called to the navel, which had become red, inflamed and pouting; on touch a feeling of fluctuation was imparted to the finger. May 10th, the child passed from the bowels a large quantity of pus; the angry appearance of the navel disappeared, all acute symptoms seemed abated. On my visit of May 12th I found the navel again inflamed, with positive indications of pus underneath; the following day it broke, discharging about a cupful of pus. I now suggested a consultation in regard to the advisability of an operation. It was declined. Same condition continued up to the first of June; the child by this time had become greatly emaciated, constant discharge of pus from the navel, and symptoms of septic poison were commencing to show themselves. At last, on June 12th, consent was given to an operation. June 13th, Drs. Allis, F. Elder and C. Reed were present. The patient was etherized by Dr. Reed, after a close examination, and taking the weakened condition of the child into consideration, and also that the abscess cavity having made an opening at the navel, it was decided that, instead of opening the abdominal cavity, a counter-opening in the left iliac region be made and a drainage-tube extending from the navel to it be introduced, and the abscess cavity washed out. I washed out the abscess cavity through the tube with a two-quart solution of 1 to 4,000 biniodide of mercury; the abdomen was then covered first with biniodide gauze, over which was laid a layer of biniodide wool, all held in position by a bandage that had been washed in a 1 to 4,000 solution of the biniodide of mercury. The abscess cavity was ordered to be washed out morning and night with a 1 to 8,000 solution of the biniodide; the child

rallied well from the effects of the ether. While washing out the cavity, on May 17th, a piece of straw came through the drainage-tube. May 22d, discharge of feces through the lower end of the tube; which occurred two days in succession; for the following ten days, when the child partook of food, more especially if this was an egg, within a half hour some of it partially digested would appear at the end of the upper part of the tube; if the discharge occurred later than a half-hour it would appear at the lower end of the tube; this clearly demonstrated a fecal fistula in connection with the abscess cavity. Gradually all discharges ceased; and the tube was taken out July 23, 1887; a week later both openings were closed, but it was several months before the child could resume her ordinary diet; apples would inevitably bring on severe colic.

None of us at the time of the operation went further than to "hope" that the little patient would get well. The case demonstrates well the antiseptic properties of the biniodide. It was an extremely warm month, and, with the exception of the two or three days on which the feces passed down through the tube, the odor of the discharges was held in abeyance.

Double Laceration of the Cervix.

Case.—Mrs. F. had a large, double laceration of the cervix following a natural labor. I first saw the case in May, 1885, and advised operation. Operated October 5, 1885. Extensive denudation had to be made; fourteen silver stitches were necessary; hot water was used to cleanse the parts during the operation. On the second day a very offensive bloody discharge occurred. The vagina was washed out with a hot 1 to 4,000 solution of the biniodide of mercury three times a day; at the first injection all odor disappeared, and did not return throughout the rest of the treatment; the stitches were taken out on the tenth day, with perfect union.

Abscess of Right Foot.

Case.—In February, 1887, I was called to see Master McG. About a week previous a heavy box fell on his foot; painful at the time, but not painful enough for him to give up his work, he continued to work up to February 10, 1887; on the previous evening his foot became swollen and painful; under poultices the inflammation centred, and on February 20, the abscess broke. The opening was stubborn to heal; offensive pus was discharged; every day I injected the cavity with a 1 to 2,000 solution of the bichloride of mercury and packed; this treatment was kept up for ten days without any change; the bichloride was then changed to a 1 to 4,000 solution of the biniodide of mercury, the discharges were made pure, and in the course of another ten days the opening closed, but the foot remained tender for several weeks.

Abscess Extending from the Right Axilla down the Right Side to One Inch below the Floating Rib.

Case.—W. S., æt. 30, barber, of scrofulous habit, somewhat dissipated, having a wart on the right middle finger, picked it with his fingernails; the result was an acute inflammation of the entire arm. I saw the case July 16, 1888; under cooling applications, the inflammation soon abated. About July 21, 1888, the right side, extending from the axilla down to midway between the last rib and the crest of the ilium became intensely inflamed; the pain was excruciating, and large doses of sulphate of morphia gave only momentary relief; large flaxseed poultices liberally sprinkled with laudanum were applied. On the 24th I detected fluctuation at the lower border, made an exploratory incision, and obtained half a cupful of fetid pus and broken-down blood; this gave slight relief. On the 26th the pain returned tenfold; the same evening, the patient having been etherized by Dr. S. Solis-Cohen, I enlarged the previously made incision to three inches, and about half a pint of extremely fetid pus was discharged; the finger was then introduced, and two encysted pus sacs, situated at the edge of the scapula, were ruptured, and another half pint of pus was discharged; the cavity was then washed out with a 1 to 4,000 solution of the biniodide of mercury, a drainage tube introduced, flaxseed poultice applied, and over all a layer of biniodide wool.

Next day I found the patient had had a good night's rest; I removed the poultice; cavity to be washed out three times a day with the biniodide; drainage tube taken out on the fourth day, and within a week the case was discharged well. It is hardly necessary to state that good nourishment, iron, and quinine were ordered. After using the biniodide no odor was perceptible in the discharges.

Three Cases of Carbuncle.

Case 1.—April 23, 1887, I was asked to see Mrs. P., æt. 72, and found her suffering with a carbuncle on the back of the neck, six inches long and four inches wide. It was riddled with a number of suppurating points; on the previous day the patient had been given up by her medical attendant as incurable. On Sunday, April 24, 1887, after the patient had been etherized, the wound, instruments, and sponges were made antiseptic by being washed with a 1 to 4,000 solution of the biniodide, after which a crucial incision was made and all the hardened tissue dissected out, down to healthy tissue, thoroughly washed out with the biniodide, and a flaxseed meal and charcoal poultice applied; the sore to be well washed three times a day with the biniodide, when a fresh poultice was applied. Internal treatment, quinine, and full diet. In

twenty days the patient was discharged well. The disagreeable odor in this case was not entirely dissipated, but was held under control.

Case 2.—Mr. B., coal merchant, aged 40. Carbuncle in right shoulder, size of an egg, hard, indurated, extremely painful to the touch, and a point of suppuration at the centre; the case was seen April 7, 1888. The next day, after the patient had been etherized, I made a deep, crucial incision, and dissected out all the hard, indurated tissue; the same treatment was used as in Case 1. No odor connected with the discharges. Patient discharged, cured, in two weeks.

On October 20, 1888, I was again asked to see the above patient. I found him suffering from an attack of herpes of the back of the neck, which was, in a few days, followed by a number of abscesses, two of them resembling small carbuncles. A charcoal poultice was applied, and in three days all the abscesses were opened, but during the following week there seemed to be no change for the better. I then ordered a piece of linen to be saturated with a 1 to 4,000 solution of the biniodide and applied to the surface, and over this a flaxseed-charcoal poultice; within 48 hours the angry appearance of the abscesses and skin abated, and in four to five days more all inflammation had disappeared, when the patient was discharged.

Case 3.—J. E., aged 69, was taken sick about three weeks previous to my seeing him. It first commenced with a painful tumor on the neck. When I saw the case (July 19, 1888), the entire surface from the superior curved line of the occipital bone down to the seventh cervical vertebra and from ear to ear was one immense, suppurating surface, covered with a thick, yellowish green membrane. The discharges were highly offensive. Pulse quick and compressible; slightly delirious; tongue covered with a thick, black, highly offensive membrane. Ordered a piece of linen to be saturated with a 1 to 4,000 solution of the biniodide and applied over the surface, and over this a charcoal-flaxseed poultice every three hours. The odor was held in abeyance. This treatment was continued for about ten days, when the surface became clear of all adventitious membrane. Poultice was continued; carbolic acid was ordered in place of the biniodide. Patient discharged, cured, September 20, 1888.

Dr. S. Solis-Cohen saw the case for me in August, and we concurred in one prognosis, which was death; but we were more than agreeably surprised.

BINIODIDE OF MERCURY WOOL AS AN APPLICATION OVER THE CHEST IN PULMONARY TROUBLE.

When, in the winter of 1886, I first ordered the chest of a child suffering with catarrhal pneumonia to be enveloped in a layer of the biniodide of mercury wool, it was simply to overcome the dis-

agreeable matting of the cotton. The child, previously to its use, was very restless, and seemed to suffer pain. On the following visit I found that the little patient had had its first quiet sleep since the commencement of its sickness; since then I have almost entirely discarded the use of cotton. The results in a number of cases lead me to believe that there must be something more than the warmth of the wool. Can it be that the heat of the body disengages the biniodide, and as the consequent result, the patient is constantly surrounded by an antiseptic atmosphere?

In a case operated upon for cancerous constriction of the bowel, by Dr. Charles B. Penrose, the patient, about the fourth week, was seized with a sharp pain in the right side below the nipple. Counter-irritants did not relieve her. On auscultation, crepitant râles were easily detected in the lower right portion of the lung, under the point where the pain was complained of. The side was enveloped in biniodide wool, and within twelve hours the pain had entirely disappeared. In the neuralgic pains always present in a case of phthisis I have found the wool to invariably diminish, if not entirely dissipate the pains, and the expectation seems easier and in smaller quantities.

My attention was called to the following by my office pupil, J. N. England: "Biniodide of Mercury Pulverization for Tuberculosis" (*American Journal of Pharmacy*, October, 1888). Miquel and Rueff's formula is given by the *Arch. de Phar.*, September 5, 1888, as follows: Biniodide of mercury and iodide of potassium, of each 1 gram; distilled water, 1,000 grams. The solution is stable. At the beginning 10 c.c.m. are sprayed once daily, to be increased to 25 c.c.m. twice daily. The larger portion of the liquid should be inspired. It reaches the lungs, says the author, but salivation does not follow, even after months of treatment. The sputa changes in character and diminishes in quantity; the number of microbes is lessened, but these organisms rarely disappear completely. The cough increases at first, and afterward subsides.

If my theory of the disengagement, by heat, of the biniodide from the wool be correct, its action will readily be explained by the above experiments of Miquel and Rueff.

DISINFECTANT IN THE ALVINE DISCHARGES OF TYPHOID FEVER.

For the past two years I have used the pellets of the biniodide dissolved in the alvine discharges of typhoid fever, and the results have always been satisfactory.

In the spring of 1886 I treated an extremely bad case of typhoid fever. The patient was broken down from dissipation, having had, about two weeks prior to his illness, an attack of delirium tremens. The alvine discharges numbered from twenty to thirty a day, and were highly offensive;

chloride of lime and different forms of chloride and sulphate of iron were used without any diminution of the sickening odor. I then ordered two (1 to 4,000) pellets of the biniodide of mercury to be dissolved in $\frac{1}{2}$ pint of water and placed in the bed-pan, to be renewed every time the pan had been used by the patient. The odor was completely dissipated, and kept so.

In another case the bichloride of mercury pellets were used without success; the biniodide pellets gave the desired result. In a case of labor which, at the end of the lying-in, terminated in an attack of typhoid fever, the nurse used the biniodide pellets on her own account in the bed-pan; there was no disagreeable odor throughout the course of the disease.

The description of the action of new medicinal preparations or new properties to an old medicine necessitates tedious histories of cases; this must be my excuse for dragging through such dry details.

It is not my intention to present to you the biniodide of mercury as the one and only infallible antiseptic; I simply present my results, and have tried to give impartial histories, without exaggeration, simply as they have occurred. But the action and results of the biniodide of mercury fully strengthen my belief in its stronger antiseptic value and non-irritating properties over the bichloride.

221 South Seventeenth St.

DR. FRANK WOODBURY: Since Dr. Bernardy read his previous communication on the use of this agent in obstetrics, I have resorted to it in several cases where symptoms of septicæmia appeared, and where the lochia were offensive. In one case of placenta prævia, where there were offensive discharges, and there was danger of premature labor, I found that the use of this agent in the strength of 1:4,000, corrected the fetor, and the patient escaped premature labor. I subsequently lost sight of her, but I suppose that delivery has since taken place.

I have two criticisms to make in regard to these so-called pellets of biniodide of mercury.

In the first place, they are not pellets, and, in the second place, they do not contain the biniodide of mercury. They are really troches, and their appearance is so inviting that they might be taken by children, or persons not familiar with their dangerous properties, as confectionery. I think that if they were really pellets, or if they were formed in the shape of bacilli, divided into ten portions, so that by breaking off one portion the proper amount of the agent would be secured, the danger would be lessened.

In reference to the second criticism. The biniodide of mercury is not soluble in water. It is soluble in an excess of bichloride of mercury, or in an excess of the iodide of potassium. The

preparation is really and iodo-hydrargyrate of potassium. This is really Neisser's reagent, which has been used as an excessively sensitive agent for the detection of alkaloids, and for the recognition of ammonia and compound ammonias.

I have one thought to offer, which seems suggestive: The value of Neisser's reagent consists in its power to precipitate alkaloids, and to decompose compound ammonias. Now in these cases of bacilli found in offensive lochia and suppurating cavities, the bacilli are probably accompanied by the products of their growth and multiplication. These resemble ptomaines, and are, properly called leucomaines. Philips, of Edinburgh, found that by injecting into animals a watery extract obtained from the sputa of consumptives, and from other tubercular products, he produced the ordinary symptoms of phthisis, fever, emaciation, loss of appetite, and strength, and progressive decline of the powers of life, and finally death. Now, it is probable that these substances, which are alkaloidal in character, are precipitated by Neisser's reagent.

We cannot at this time enter into the question why certain agents are antiseptic and others are not, or why one should be more antiseptic than another. This is a matter of experiment. We do know, however, that Neisser's reagent has for a long time been used in the laboratory for the precipitation of alkaloids, and this fact interested me in this connection as possibly offering an explanation of the effect of this agent in the treatment of suppurating wounds and of offensive lochia.

DR. E. P. BERNARDY: From the start I objected to the shape of the pellets, thinking that they looked too much like candy, and I think that there will soon be a change, so that this danger will be avoided. The pellets of bichloride look very much like chlorate of potassium lozenges, with the exception that the word "poison" is stamped on them.

In regard to this being a double salt. This was the first thing that struck my attention. When I first used this preparation in 1884, I dissolved the biniodide in alcohol. This was found to be inconvenient, and through the kindness of Mr. Hayes, who allowed me the use of his laboratory, his assistant and I worked up this subject. We added iodide of potassium, and then found that the slightest moisture imparted to one pellet was enough to destroy the entire bottleful. We then decided to add the muriate of ammonium, which prevents this chemical reaction until the pellet is thrown into water. The pellet goes in as the biniodide of mercury, and the iodide dissolves it, but before the change takes place it has been used upon the patient.

In regard to my use of this preparation. I have studied it faithfully, and have tried to look upon the cases in an unbiassed way, and to give

a fair history of them. I have sometimes first used the bichloride, and it has not fulfilled the intention as the biniodide has done.

DR. JOSEPH PRICE presented an

EXCEPTIONALLY LARGE OVARIAN ABSCESS.

A few years ago this specimen would perhaps have been considered unique. Only a short time ago abscess of the ovary and very large pus tubes were looked on with considerable doubt. This was particularly true of abscess of the ovary. Some operators now could, perhaps, put on record more cases of ovarian abscess than could be found in all the old records. This was an enormous abscess of the ovary, probably as large as a child's head, and filled the pelvis completely. The condition of affairs was such that would a few years ago have been described as a pelvis filled with mortar, and where we were satisfied that there was simply rigidity of the vaginal vault.

I saw the patient from whom this was removed for the first time last evening. The diagnosis made by the physician was pelvic abscess or a large collection of pus in the left ovary or tube. There was but little doubt in my mind as to the correctness of the diagnosis. The pulse was 140, the temperature 103° . I decided to operate this morning. It would have been better to have operated last night if I had been prepared. The abscess extended above the pelvic inlet. There were adhesions to all the viscera, to the omentum, and to the small and large bowel from the vermiform appendix to the sigmoid flexure.

I present this simply as a specimen of exceptionally large ovarian abscess. This is the second case that I have had within a few days. The first one was not quite so large. The tube in this case was large and tortuous, and had a sausage like feel.

There is one point of interest, and that is, with reference to the character of the fluid that we sometimes find in the pelvis—for instance, in the tubes. If fluid presenting the same characters were emptied from any other portion of the body, as from the brain, axilla, or popliteal space, nothing would be said about the character of the fluid; it would be regarded as pus.

Massachusetts Medical Society,
Suffolk District.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY
AND HYGIENE

ALBERT N. BLODGETT, M.D., SECRETARY.

Stated Meeting December 12, 1888.

Dr. John A. Jeffries presented a short article

entitled *A Good Bread for Diabetics, containing Less than Five per cent. of Starch.*

DR. E. W. CUSHING read a paper on

THE PATHOLOGY AND DIAGNOSIS OF SO-CALLED
PELVIC CELLULITIS, WITH SPECIMENS OF
PYOSALPINX.

(See page 551.)

DR. SINCLAIR: I do not belong to the surgical section of those who treat disease of this kind. I have never operated, and consequently can say nothing at all in that direction. I have more or less acquaintance with the medical aspect of so-called pelvic cellulitis or peritonitis from the time when I was a student of Dr. Simpson, of Edinburgh, who first opened my eyes to this disorder, and I became deeply interested in it from the first. I think I was the first to describe a case of pelvic cellulitis as such in this city or State. The discussion on that occasion was very interesting. The late Dr. Jackson rather doubted the possibility of there being a sufficient amount of cellular tissue about the junction of the neck and body of the womb with the broad ligament to have allowed such an amount of infiltration as was described in that case. Suffice it to say that we regarded it as abscess of the broad ligament. It was within ten days after confinement and followed within about three weeks by a discharge of pus through the rectum. I think it was 28 years ago. Since that time I have studied it as far as I could both from touch and observation, but I have never had an opportunity of seeing the post-mortem examination of such a case except in one instance. Probably twenty cases or more came under my observation as physician of the City Hospital, but this one showed most clearly what had already been written and published by Bernutz in his famous work on pelvic peritonitis and uterine diseases. That case was one of tubercular disease of the fallopian tube, and there were also, I think, some tubercles deposited in the interior of the uterus. At that time I became a convert to the Bernutz and Goupil theory, which was entirely contrary to the one received from Prof. Simpson. It seemed a revelation—like being born again—to accept the theory that this condition of things was intra-peritoneal.

In the Boston City Hospital Reports, vol. i, there is a record of some twenty-one cases of pelvic cellulitis, or "peri-uterine inflammation," inasmuch as I think that term would cover the ground in these obscure cases better than "pelvic cellulitis." The history and the termination would conform much to those cases read by Prof. Rosenwasser. I have no doubt that the conclusion now reached by gentlemen at home and abroad—surgeons and laparotomists, that the best treatment of a large number of these cases has been discovered in the removal of the diseased organs, which are generally the ovary or fallopian

tubes—is the correct one. There are certain cases, however, of true *pelvic cellulitis*, but those generally follow confinement and are septic in their nature.

We have a mild form of pelvic peritonitis frequently met with in girls—recurrences of sharp pain; they are “laid up” for a day or two, and these recur and keep recurring, but very little attention is paid to them; still they may mean a great deal.

The subject is intensely broad. I do not know of another in the whole domain of gynecology that is wider and more interesting; and, as I said in an introductory note in my paper in the Hospital Reports, I believe that 50 per cent. of the disorders of women which we come in contact with are due to some kind of peritonitis, some localized pelvic peritonic trouble. I know that at the time I was laughed at for such an assertion, but I think, instead of 50 per cent., I should set it higher to-day.

DR. S. C. WHITTIER, President of the New Hampshire State Medical Society, said: I have been very greatly pleased with Dr. Cushing's paper and the explanation of the cases that he has given us. But one thing which I think should impress our minds more than perhaps almost any other, is the getting away from, or losing sight of, the idea of pelvic cellulitis. I have come pretty thoroughly to the belief that we really get salpingitis instead; and I now should never examine a typical case of what we call “pelvic cellulitis” without expecting to find salpingitis, and I don't think I should probably be mistaken.

I have had quite an extensive opportunity, under the guidance of Dr. Cushing, of examining almost all of the patients from whom these specimens were removed, and have seen a great many of his operations, and I certainly have been very highly edified and instructed.

DR. JOHN HOMANS: I am much interested in this very large display of specimens of diseased tubes; it brings the fact to the front again that we owe this to Mr. Tait that he first called our attention to this condition of things.

A few weeks ago I had a case much like some of these. The woman had been for seven years an invalid. She was the wife of a railroad engineer unable to employ a servant. She was not able to do much, and had been a good many months in the hospitals. Life was not a burden to her, but still hardly worth living without being able to do anything. On examination, I found in the left iliac region a bunch about as large as a pear, and at the operation I had to go through the mesentery to make an opening into the sac, which I finally, after considerable difficulty, removed. It was the left ovary and tube. She had a drainage-tube inserted, and did very well. The other day, several months after the operation, she called to see me. She was able to work and enjoy herself.

It seems to me that the treatment by laparotomy is the right one. The disease has been going on for some time in many cases, and it is pretty hard to keep a person waiting who is unable to do anything.

Another case I operated on with considerable hesitation, because it was my first operation. It was one of those abscesses connected with the rectum, and I feared I should have a faecal fistula. The uterus was displaced to the right and fixed, and when the abdomen was opened I found a tumor bulging out on the left side beneath the broad ligament, beneath the peritoneum, and with the the intestines above it. I aspirated, enlarged the opening, putting in a glass drainage-tube. The woman was better for the time being, but whether it was a permanent cure I do not know. No faecal fistula followed.

Of course all these improvements come from the enlarged practice in ovariectomy. As the operation was introduced by Sir Spencer Wells, and the familiarity of the abdomen obtained by ovariectomists, gradually surgeons became more confident, until a person of Mr. Tait's temperament and courage and decision came along and discovered this condition of the tubes and ovaries.

I think Dr. Cushing is to be congratulated on the results of his efforts; it is a remarkable series of cases and a remarkable showing.

DR. R. H. FITZ: The question that first occurs to me is this: what happens to these cases if not operated upon? Until the removal of acutely diseased tubes the patient was let alone and went under medical treatment; that has already been referred to. When the first of these tubes was brought to me it was a surprise to me that in making post-mortem examinations it was a rare thing for any such condition to be seen; the inference being that if no operation was performed the fluid was gradually absorbed, the pus became absorbed, the tubes thickened, and one had in the person who got beyond the climacteric simply adhesions and thickened tubes. The amount of suffering which these women may have undergone while this process was being brought about was something that I had no idea of at the time; and it seems to me this is the natural history of this class of cases; if the attacks are not so violent as to indicate a spreading peritonitis and demand immediate operation for the relief of that condition, they will generally, the majority of them, dry up and adherent masses will remain, which evidently will give rise to very little disturbance. But it is very evident from the experience of Dr. Cushing, and familiar to other operators, that a great deal of suffering does arise until that thing in the history of the process is brought about; and that the results of these operations are very striking in relieving, as far as the present evidence goes, these serious disturbances.

With regard to the more immediate subject before us—the relation between these pelvic abscesses and tubal inflammation and cellulitis, so called—there is no question that a pelvic cellulitis does occur, and that it results in the formation of pus, but that it gives rise to any considerable tumors limited to the subperitoneal connective tissue seems to me not very likely. The course of pelvic inflammation is either forwards or backwards, and one has a long suppurating track insisted of sharply defined circumscribed tumors that are represented by the tubal inflammations, and also by the cases of circumscribed peritonitis, which are so generally of tubal origin.

I quite agree with Dr. Cushing that the great majority of these cases are not cases of abscess in the pelvic connective tissue, but are cases either of dilated inflamed tubes or of circumscribed peritonitis.

DR. J. P. REYNOLDS: That is a point which I wish to bring up a little. I don't differ perhaps at all from the statement of the general fact, that a vast number of cases which have been considered to be the result of inflammatory process in the peritoneum, are really cases of these inflamed organs, or of the tube, containing confined serum or pus. To that statement no criticism can be made; but I should not want to believe that anybody has seriously asserted that such collections of pus in occluded tubes were the result of inflamed areolar tissue. Septic inflammation in the lying-in-period, for instance, ordinarily follows the track of the subareolar tissue, that is, where the investing membrane lies loosely attached to the uterus, but in the two lateral borders is a frequent seat of such inflammatory processes, less frequently on the anterior and posterior surfaces, because there the investing peritoneal membrane is extremely closely attached to the uterus. It is an old matter of anatomical statement that the areolar tissue extends over the peritoneum, over all the viscera, and inflammatory processes occurring in it are only very exceptionally limited and converted into circumscribed disease; but that ordinarily all the various degrees of inflammation, sometimes extending over a very large portion of the abdominal surface occur, seems to me to be a fact not at all conflicting with the statement that a great many cases have been mistaken for inflammation of that tissue, and perhaps involving the peritoneum over it, when really they were inflammations, as I understand the writer of the paper to urge, of the subjacent organs and of their interior lining, resulting in the formation of masses of liquid. I don't say that it is necessary to imagine that old pathologists were so much in error when they stated that inflammation inside the Fallopian tube was the result of inflammation of the areolar tissue over it; but that there is such tissue capable of doing vast mischief, and does constantly in

the lying-in period, seems to me to be a fact we must still admit. I don't think that it conflicts at all with the statement which underlies the history of these cases, that in the great majority of cases it is an internal inflammation occluding the tubes and resulting in hydrosalpinx or pyosalpinx.

DR. F. L. BURT: In many cases belonging to this class the diagnosis is of considerable importance, although in some cases it may not be really so necessary, because if we are certain that an operation must be performed, we are equally certain of being able to clear up the whole matter at that time. As a point by way of an aid to diagnosis, I would say a few words which might be of interest in regard to the use of electricity in these cases. The benefit to be derived from this agent will depend upon whether there is or is not pus present as a result of the pelvic inflammation; that is, whether an abscess or not.

To illustrate this I will briefly relate the facts concerning two typical cases. A woman of 45 years desired to enter the hospital, but I could not admit her, as there seemed to be no operation indicated, yet she was sadly in need of treatment, as she was a complete wreck. Examination showed the results of an old pelvic inflammation, and the outline of the uterus could not be made out at all. The condition was one which would most usually be diagnosed as fibroid, but there was no such tumor. I offered to treat the case at my office as a free patient. One application caused such an amount of absorption that I could easily outline the uterus after it, and with six applications there was such relief that she was able to resume work. The second case was diagnosed as fibroid which had considerable pain and flowing associated. The removal of ovaries and tubes was considered. As a preliminary treatment I applied galvanism, positive intra-uterine. The result was to increase the pain and not to stop the hæmorrhage in the least.

Previous experience led me to doubt the diagnosis, and the operation revealed a double pyosalpinx. A private case of which I show the specimen well illustrates this latter type. A lady of 50 years had suffered during the past six years all the tortures resulting from a pelvic inflammation. There was treatment at the beginning for pelvic inflammation, and what was called a cure resulted. Quite recently she was told that she suffered simply from nervousness. She was referred to me by Dr. Manuel for treatment. I found it to be a typical case of pelvic inflammation, and the pelvic organs were joined in one solid mass, but the existence of pus was uncertain.

I began with galvanism, but it did not help in any way, and the pains grew worse. The reason you will see, for a little later I did a laparotomy, and the result was the removal of the double pus tubes which I show you. The case has recovered

perfectly. Another specimen which I will present is that of tubes and ovaries from a lady aged 38, who had a fibroid about the size of a twelve weeks' pregnancy. She had flowed constantly for three weeks, and was much reduced. Some might consider this a suitable case for electrical treatment, but I did not so judge it, from the fact that there was evident disease of the tubes, and the ovaries were displaced, adherent, and very tender. She had had supporters used for a considerable time, only to aggravate the trouble. I admitted her to my private hospital, and the following day removed the tubes and ovaries. There was double hydrosalpinx, both ovaries were enlarged, cystic, displaced downwards and backwards and adherent.

Their removal was a necessity both to relieve the pain and to cause the uterus to diminish in size. The recovery from the operation was extremely rapid, and she was up in fourteen days.

In regard to the cases whose specimens have been exhibited this evening, I would say that I have had personal knowledge of them all. It is a class of cases hard to diagnose and difficult to treat, and they usually have been through all kinds of treatment, without cure, sometimes without relief, it may be for years, before they come to the surgeon. The operation is not a necessity for life, but it is for a comfortable life, as all patients suffering in this way are invalided considerable of the time, and life is a constant burden to them. Because of this I would consider the operation as clearly indicated, and the results of this series show that everything expected has been realized.

DR. M. ROSENWASSER said: While it is intended to limit the scope of my remarks to reflections on chronic pelvic inflammatory troubles, intimately connected with the subject under discussion, I beg leave to digress for a moment to question the advisability of saving the right appendages in the case of suspected gonorrhoeal salpingitis. The right tube and ovary were bound down by adhesions, requiring considerable force to separate and unfold them; they appeared otherwise healthy. The object in dropping them into the pelvis was to afford the young wife the only remaining chance for a future pregnancy. One would *a priori* expect the bruised and wilted tube, with its raw, thickened walls, to be again enveloped in exuded lymph, its abdominal end occluded and the whole organ glued down to its old or some other neighbor in the pelvis. In due time this tube, so disqualified for performing the function sentimentally reserved for it, will give rise to a series of symptoms of renewed disease which will render its removal as necessary as was that of its fellow. My ominous prediction is based on a paper by Lawson Tait in the May number of the *Amer. Journal of Obstetrics* for 1887, entitled "On the Results of Unilateral Removal of the Uterine

Appendages." In twenty-six unilateral appendages so saved, there was a return of the disease in more than half of the cases; only three subsequently became pregnant. These unpromising results followed, although the appendages remaining had seemed perfectly normal.

DR. CUSHING: I have very little to say to close the discussion. I should like to bring out again the fact that in presenting all these cases and all coming in at once, I do not desire to imply that all such cases are to be rushed into this operation. These are old and neglected cases, most of them from out-of-the-way places where they couldn't get treatment. I had a case from Dr. Adams, of Framingham—pelvis full and hard. I said: "The woman has a home, can hire a girl; better give emollient applications, and wait."

In regard to getting fæcal fistula: of course there is some danger of that. In one of these cases pus was discharged from the rectum. On examining with the finger during the operation I found what I presumed to be adhesions and hardened tissue around the fæcal fistula. I did not disturb it, and she had no trouble from it.

In regard to the matter of puerperal inflammatory affections, I think the profession is going through the same process of education at the hands of Mr. Tait as they did in the case of areolar tissue at the hands of Ruysch.

I think in those cases in which Mr. Tait had the opportunity of operating, within a few days he found the tube enlarged, diseased, and evidence that the septic infection had not got into the lymphatics and run up in that way, as is generally supposed, inflaming the areolar tissue, but that there was septic endometritis; the tubes were enlarged, not occluded; pus runs out and sets the peritoneum on fire—that is the way the case spreads. I saw M. Price operate in a case after abortion. The woman had puerperal fever. The tube was found as big as my wrist, big as a Bologna sausage. Out of that came this nasty foul pus, of which there were pockets in the pelvis. The case was perfectly clear, nothing about the areolar tissue. Pockets extended up to the kidneys. It was a neglected case.

From the results of such operations, I think the profession will go through the same course in regard to puerperal cases as in regard to non-puerperal cases. Where there is an acute case of puerperal fever somebody will take out the diseased tube, if necessary the whole diseased uterus, and in that way save the woman, because the whole uterus may be a sloughing, diphtheritic bag of foul pus. That could be rinsed out from below, but nobody can rinse the tubes out. I think the operation for puerperal fever is going to be to remove the tubes and sometimes the uterus with it, drain and wash out the pelvis, and a good many women will be saved.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR SPECIAL CORRESPONDENT.)

Sir Joseph Lister: His Operative Work—Abdominal Surgery at the Samaritan Free Hospital for Women—Operative Methods—The Museum in Lincoln's-Inn-Fields.

The hospitals and clinics of the metropolis are so numerous, and the number and variety of patients and diseases so great, that one must of necessity make a selection. Fortunately the days and hours for visits and operations are published, and the visitor need have no difficulty in arranging his visits and thereby utilize all his time. My first visit to Kings' College Hospital was on Friday, the 22d of February, at 2 o'clock, the day and hour of Sir Joseph Lister's clinical lecture. Of course I had an especial desire to see the operative work and to know something of the *personnel* of the man who of all now living has most advanced the science and art of surgery. I remarked as much to Sir Joseph as we entered the operating theatre, saying that I deemed myself fortunate in seeing antiseptic surgery done by the Master, to which he replied with acknowledgement, saying, "the Master is growing old, Doctor, and must ere long leave to others the continuation of his work." The case for operation on this occasion furnished an excellent opportunity to witness the details of his method and the application of the surgical principles bearing his name, it being a case of schirrus of the breast. The operation consisted of complete excision of the right mammary gland and also of the axillary glands adjoining. The spray has long since been omitted from the antiseptic technique. The integument was first thoroughly cleansed and sterilized with a solution of bichloride of mercury, 1 to 500. Towels wrung from a solution of carbolic acid, 1 to 20, were then placed around the site of operation. The instruments and sponges were placed in the solution of carbolic acid, and the same was used for the hands of the operator and his assistant. By a triangular incision the breast was opened and the entire gland containing the tumor removed. The incision was continued into the axilla, and the axillary glands and fascia cleanly removed, the operator relying most upon his fingers and the handle of the scalpel in enucleation. Bleeding vessels were seized with pressure-forceps, and catgut ligatures applied and cut short where required to secure them. Rubber drainage-tubes were placed, the exposed surfaces irrigated with the sublimate solution, and the irrigation continued while the dressing was completed. The latter consisted of the application of silk sutures bringing the flaps together, antiseptic gauze to the wound, all covered with several

layers of light antiseptic gauze, and a bandage retaining all and fixing the arm to the side. As a surgeon Sir Joseph is prompt, deliberate, skillful and self-reliant. Indeed he is, in a word, a thorough-going surgeon. There were two points impressed more particularly upon my mind as I watched the several steps of the operation. The first was the dexterity with which Sir Joseph utilizes the drainage-tube, and what an important feature it is in his technique. In this instance he used three, placed so as to thoroughly drain the extensive surfaces of all fluids. The second point noted was the care bestowed upon preventing admission of air to the wound after uniting the flaps and making the final sublimate irrigation. His care and solicitude regarding this last point were marked, and show that he is firm in his conviction that the air is the medium of microbic infection. As you know, this last premise is the battleground contested so keenly by those who do not adopt in its entirety the Listerian doctrine. The so-called gospel of surgical cleanliness insists upon asepsis as effected by hot water to instruments, hands, etc., but does not regard the air a medium of infection. The fact stands before us, however, that in old hospitals and crowded wards wounds are united without suppuration, joints opened and healed without febrile action under thorough antiseptics. This too with uniformity, in an atmosphere which in the old days carried septic infection in some degree to every wound exposed thereto.

After operating, Sir Joseph Lister kindly took me through his wards where I had the opportunity to see a large number of interesting cases. He removed the dressings from a case of fractured patella in which the joint was opened and fragments wired one week before. The stitches were clipped and removed from a dry, firmly united wound. Two lateral splints secured immobility of the limb, and are retained until union is firm, being removed from time to time for passive motion. In another case the thigh had been amputated, on account of sarcoma, three weeks before, and the temperature chart told the story of continued improvement without febrile action from the date of operation. The case which interested me most in these wards was that of a woman with suppurating hydatid cyst of the liver communicating with the stomach. Three days before Sir Joseph had made an exploratory section, opened, irrigated and drained the sac. The patient now maintained by enema, and presented favorable symptoms. Such interference in an obscure abdominal swelling, associated with grave constitutional symptoms, illustrates genuine conservative surgery, whereas the common practice of giving anodynes in such conditions, called expectant treatment, is anything but conservative. Sir Joseph has the Fergusson and Victoria wards in this excellent hospital, which are always filled with interesting surgical cases of great variety.

Just off Portman Square, at 13 Lower Seymour street, situated immediately on the street, is an unpretentious building which has been the scene of most important events connected with the rise and progress of a great and brilliant department of surgery. A glance is sufficient to assure one that the building was never designed for its present purpose, but that it was a small dwelling-house which has been enlarged and adapted to the demands of its present use. It bears the name of the Samaritan Free Hospital for Women and Children, founded in 1847, with the additional statement that it is supported by voluntary contributions. Entering the reception-room the eye is attracted by a handsome marble bust of Sir Spencer Wells, the eminent consulting surgeon of the hospital. It was here that Sir Spencer conducted through many years with unswerving fidelity and persistence, in the face of fierce opposition and denunciation, those labors in abdominal surgery which laid the foundation for the brilliant achievements of the present age. It must be remembered that after McDowell and Nathan Smith had passed away, ovariectomy lapsed into disrepute, until Wells, in England, and the Atlees, in America, resumed the work and placed the operation upon a firm footing. Sir Spencer has retired from active work at the hospital, and the work is ably continued by Bantock, Thornton, Meredith and others. The first operation I witnessed in the hospital was on February 26, and was by Dr. Bantock. Before being admitted to the operating room all visitors are required to sign a printed statement that they have not recently attended any case of acute infectious disease or post-mortem examination. On entering the room the patient was anesthetized and the operator, assistant and nurse in their respective positions. The hair was shaved from the pubes, and a rubber cloth laid over the patient's body, with an opening over the abdomen. The instruments were placed in trays and covered with hot water. No antiseptic solutions of any kind are employed by Bantock. An incision was quickly made in the median line about 3 inches in length. Before opening the peritoneum all bleeding points were seized with pressure forceps. The peritoneum was seized and nicked, and divided with scissors. The operator then introduced two fingers and thoroughly explored the pelvis. The tumor was an uterine fibroid and was found to have extensive attachments to the sides of the pelvis and pelvic viscera. It was decided to be impracticable to remove it, and the incision was at once closed. Silk-worm gut sutures were introduced with the Hagedorn needle, and the incision neatly closed. A piece of gauze was applied along the wound, a pad of same material superimposed and a broad bandage placed firmly over all.

On March 3, I witnessed a second abdominal section by Bantock. On opening the abdomen

the tumor was found to be a solid tumor of the broad ligament. The peritoneal covering of the tumor was incised, the growth turned out, and a point of firm attachment secured with a single ligature. Considerable venous oozing persisted from the site of the tumor. After packing with sponges for a time, a glass drainage-tube was placed in and the incision closed. The operation was done quite deliberately, great care bestowed upon the toilette of the peritoneum and dressing, and no attempt to curtail time by quick work. Silk-worm gut sutures were used to close the incision. Bantock is most attentive to details, exceedingly neat in all his work and deliberate in dealing with complications. His results are unsurpassed.

On March 6, I saw Mr. Knowsley Thornton do an ovariectomy. Although working in the same hospital, his technique is altogether different from that adopted by Bantock. The patient having been etherized is covered with a large rubber sheet, with a opening over the central part of the abdomen. The instruments, ligatures and sponges are placed in a solution of carbolic acid and the spray (carbolic acid 1 to 24) directed upon the field of operation throughout. An incision about 3 inches long was made and the cyst was entered through dense adhesions. The chocolate-colored contents of the cyst contained numerous, large, soft degenerated clots, seeing which the operator expressed his belief that the tumor would be found to have a twisted pedicle. This proved to be correct. The sac was universally adherent, the attachments being old and very firm. The sac was emptied and thoroughly cleansed, and the work of separation begun. This proved a difficult task. After a faithful effort to secure a hold at the line of incision, it was decided to enlarge the incision and attempt separation from the posterior. The sac was inverted as far as possible and carefully divided upon its posterior part down to omentum and intestines and the work of enucleation begun. The attachments to omentum, intestine and Fallopian tube were very firm and separated with great difficulty. The scissors were required frequently and many ligatures applied. Denuded surfaces bled freely and ligature and sponge-packing constantly applied. Proceeding cautiously, the huge sac was finally brought away. The peritoneum was thoroughly cleansed, all oozing surfaces receiving close attention, and after repeated counting of sponges and forceps the drainage-tube (glass) was placed in Douglas' space and the incision closed. The tube was dressed with sponge and rubber, as usual, but closed carefully by a pad and bandage over all, so as to exclude completely access of air. The pad over the incision was fixed by strong adhesive straps, and bandage over all.

This operation required an hour and thirty minutes and was one of the most difficult I have

ever seen. I have encountered in my own work one such cyst with universal firm adhesions, and could appreciate all the more the difficulties of the situation. I my own case I left behind several portions of the sac attached to the intestines; my patient made a good recovery. Mr. Thornton told me after the operation that several times during the operation he doubted his ability to complete the enucleation. I saw this patient yesterday, eight days after the operation, in advanced convalescence. She had an uninterrupted progress toward recovery, which is already assured.

Of the many admirable features of Mr. Thornton's work, one deserves special mention. I allude to his sponge-packing. He leaves no bleeding points to go back to, but secures them as he proceeds. He uses his sponges to great advantage as means of pressure, to absorb exuded fluids, and to protect the peritoneum in every way. He uses silk altogether for ligatures and sutures.

On March 14 I witnessed an ovariectomy by Dr. Bantock in the morning, and a cholecystotomy by Mr. Thornton in the afternoon. Having outlined the methods of each in abdominal work, I will not go into details by way of repetition.

One of the most interesting and instructive places a medical man can visit in London is the Museum of the Royal College of Surgeons in Lincoln's-Inn-Fields. The collection illustrating extra-uterine foetation is especially rich and particularly interesting at this time, when so much attention is being given the subject. Here also are to be found many specimens from Sir Spencer Wells' extensive experience; one of these from a case of Porro's operation, with nodular fibroid uterus, deserving special mention. One dermoid of the ovary, containing a mass of hair and teeth, is of the Hunterian collection. The collection of uterine and ovarian tumors is very extensive and illustrates many pathological conditions of practical interest. These are all the more instructive by reason of the fact that a history of each in abstract is at hand.

In a few days I go to Bristol to spend a few days with Mr. Greig Smith, and thence to Edinburgh. About April 1 I will go to the Continent, and will write you from Paris or Munich.

L. S. MCMURTRY.

March 15, 1889.

BOOK REVIEWS.

INTESTINAL SURGERY. By N. SENN, M.D., PH.D., Attending Surgeon Milwaukee Hospital; Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago. Chicago: W. T. Keener. 1889.

This is an octavo volume of 269 pages, printed

and bound in fair style, and contains a republication of the author's very valuable contributions to our knowledge of intestinal injuries and their treatment, by experiments and clinical experience. It contains the lengthy paper on The Surgical Treatment of Intestinal Obstructions, read before the Congress of American Physicians and Surgeons, in 1888; An Experimental Contribution to Intestinal Surgery, etc., reprinted from the *Annals of Surgery*; Rectal Insufflation of Hydrogen Gas, an Infallible Test in the Diagnosis of Injury of the Gastro-Intestinal Canal in Penetrating Wounds of the Abdomen, read in the Surgical Section of the American Medical Association, 1888; and the report of two or three cases illustrating the practical application of the hydrogen gas insufflation.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, Designed for Military and Civil Use. By ALVAH N. DOTY, M.D., Major and Surgeon Ninth Regiment N. G., S. N. Y.; Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton & Co. 1889.

This is a small sized volume of 224 pages, published in good style and fully illustrated. The author says in the preface: "The object of this manual is to instruct those who are desirous of knowing what course to pursue in emergencies, in order that sick or injured may be temporarily relieved. Special effort has been made to arrange the matter and introduce such points as will be of use to the ambulance corps connected with the different military organizations." From a cursory examination of the contents of the book we think the author has succeeded well in accomplishing the object just stated.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. II, No. 1. Contents: "On Diabetes and its Connection with Heart Disease," by JACQUES MAYER, M.D. "Blenorrhœa of the Sexual Organs and its complications," by ERNEST FINGER, M.D. New York: Wm. Wood & Co. April, 1889.

This number of Wood's Monographs contains the two articles named above. They are well translated and interesting. The first occupies 29 pages, the second 275. The second is a complete monograph upon the subject. The advice in regard to treatment is certainly judicious, but we do not learn that any very great advancement has been made by the author over the results of others.

THE STUDENTS' TEXT-BOOK OF THE PRACTICE OF MEDICINE. By ANZEL MONEY, M.D., Lond. London: H. K. Lewis, 1889.

This small hand-book is very well written and free from errors. It is to be commended as a good

but too brief résumé of the subject. In this country at least it is doubtful if there is any need for such small works, which imperfectly cover the subject of the Practice of Medicine.

AMERICAN RESORTS; WITH NOTES UPON THEIR CLIMATE. By BUSHROD W. JAMES, A.M., M.D. With a Translation from the German by Mr. S. Kaufmann of those Chapters of "Die Klimate der Erde," written by Dr. A. Wollkoff, of St. Petersburg, Russia, that relate to North and South America, and the Islands and Oceans contiguous thereto. Philadelphia: F. A. Davis. 1889.

As indicated by the title, this unique and carefully written book is especially adapted for the perusal of invalids and those who desire to preserve good health in a suitable climate. The author, in the preface says, the longer he is engaged in professional work as a physician, the more he is impressed with the importance of the residence of invalids in a suitable climate as an almost indispensable factor in the treatment, prevention and cure of many forms of disease. He is of the opinion that our own country affords sufficient variety and range of climatic conditions to meet the needs of any case where change of climate is desired. He goes on to say: "If we as people, would more generally seek health in our own sanatoria, and our medical men would encourage their patients so to do, the value of these places of retreat for health would soon be appreciated and their fame become widespread."

The chapter on Medical Climatology is especially interesting to the profession, as is also that on the Benefits and Dangers of Health Resorts.

The book is well printed, and reflects credit on both author and publisher.

MISCELLANY.

THE McLEAN COUNTY MEDICAL SOCIETY met in extra session on April 11, 1889, at the office of Drs. Darrah & Corley. There were present Drs. S. T. Anderson, L. A. Burr, E. K. Crothers, C. J. Corley, A. L. Chapman, A. T. Darrah, N. F. Jordan, Wm. Hill, E. P. C. Holderness, E. Mammen, H. Parkhurst, W. L. Pollock, G. M. Smith, J. B. Taylor, F. J. Welch, J. L. White, S. B. Wright.

Dr. Parkhurst occupied the chair. Dr. Jordan stated the object of the meeting, which was to take some action with regard to the proposed repeal by the State Legislature of Section 11 of the Medical Practice Act. On motion the chair appointed Drs. Hill, White and Darrah to prepare resolutions expressive of the sentiments of the members of the Society with reference to the proposed legislation. The committee reported and the Society adopted unanimously the following:

WHEREAS, A bill has been introduced in our State Legislature by one of the Representatives from this county, to repeal Section 11 of the Medical Practice Act, and

WHEREAS, The impression might be conveyed abroad

that the medical profession of McLean County was in accord with the Representative who has offered the bill. Therefore be it

Resolved, That we, the members of the McLean County Medical Society in extra session convened, this, the 11th day of April, 1889, condemn the action of our Representative in his efforts to repeal said Section 11 of the Medical Practice Act, and further, be it

Resolved, That we heartily endorse the Medical Practice Act as it now stands.

Drs. J. L. White and A. T. Darrah were appointed to visit the Illinois State Legislature in the interest of the Medical Practice Act as it now stands.

C. J. CORLEY, M.D., Secretary.

ADMISSION OF AIR TO ROOMS.—Air should be introduced and removed at those parts of the room where it would not cause a sensible draught. Air flowing against the body at, or even somewhat above the temperature of the air of the room will cause an inconvenient draft, from the fact that, as it removes the moisture of the body, it causes evaporation or a sensation of cold. Air should never, as a rule, be introduced at or close to the floor level. The opening would be liable to be fouled with sweepings and dirt. The air, unless very much above the temperature of the air of the room, would produce a sensation of cold to the feet. It may be regarded as an axiom in ventilating and warming, that the feet should be kept warm and the head cool.

The orifices at which air is admitted should be above the level of the heads of the persons occupying the room. The current of inflowing air should be directed toward the ceiling, and should either be as much subdivided as possible by means of numerous orifices, or be admitted through conical openings with the smaller opening toward the outer air and the larger openings toward the room, by which means the air of the entering current is very rapidly dispersed. Air admitted near the ceiling very soon ceases to exist as a distinct current, and will be found at a very short distance from the inlet to have mingled with the general mass of the air and to have attained the temperature of the room, partly owing to the longer mass of air in the room with which the inflowing current mingles, partly to the action of gravity in cases where the inflowing air is colder than the air in the room. —*Sanitary News*, April 13, 1889.

A NEW CHAIR.—A Chair of Physical Examination for Life Insurance has been created in the University of Vermont. Is there anything in the physical examinations for life insurance that differs so much from the application of physical examinations for diagnostic purposes generally, that a special Chair for its teaching is required?

THE ANNUAL MEETING of the Association of Acting Assistant Surgeons of the U. S. Army will be held in the Casino at Newport, R. I., Monday, June, 24, 1889, at 8 P.M. Members of the Association are cordially invited to read, or present papers concerning the history and the welfare of the corps. Members who intend to be present are requested to notify the Recorder at the earliest possible date. Although few Acting Assistant Surgeons can be present at the meeting, the Association will discuss the best methods to aid in improving the status of those who are now serving, and will do everything in its power for their welfare. The Secretary, or Recorder, is W. Thornton Parker, M.D., 322 Benefit St., Providence, R. I.

MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA.—At the recent regular annual meeting of the Medical Association of the District of Columbia the following officers were elected for the ensuing year: President, Jas. T. Young, M.D.; Vice-Presidents, A. F. A. King, M.D., Swan M. Burnett, M.D.; Secretary, Geo. C. Ober, M.D., Treasurer, Sam'l S. Adams, M.D.; Censors, Drs. H. D.

Fry, C. W. Richardson, L. K. Beatty; Counselors, Drs. T. W. H. Lovejoy, Kleinschmidt, Smith, Acker, Cook, Dunn, McArdle, Prentiss and Johnson.

THE TWENTY-SECOND ANNUAL SESSION of the Medical Society of the State of West Virginia will be held at White Sulphur Springs, W. Va., on July 17, 18 and 19, 1889. The prospects are that this will be a large and interesting meeting. Dr. J. L. Fullerton, Secretary of the Society, Charleston, W. Va., will be glad to give any information desired.

THE MICHIGAN STATE MEDICAL SOCIETY will hold its next annual meeting in Kalamazoo, May 9th and 10th. The Address on Medicine will be given by Dr. H. F. Lyster; the Address on Surgery by Dr. Newman Kiefer; and the Address on Obstetrics and Gynecology by Dr. E. W. Jenks. Complete arrangements are made for the accommodation of members and a full meeting is expected.

PAMPHLETS RECEIVED.

Baker, A. R., M.D., Cleveland, Ohio. *Opening Address Medical Department of the University of Wooster, February, 27, 1889.* Reprint from the Cleveland Medical Gazette.

Judson, A. B., M.D., New York. *The Question of Interfering with the Abscesses of Hip Disease.* Reprint from the New York Medical Journal.

Kipp, Charles J., M.D., Newark, N. J. *A Cause of Double Vascular Exophthalmos. Recovery Under Inter-mittent Compression of the Right Carotid Artery and the internal use of Iodide of Potassium. Cocaine Conjunctivitis.* Reprint from Transactions of American Ophthalmological Society.

Newman, Henry P., M.D., Chicago. *Alexander's Operation, with Report of Cases.* Reprint from the North American Practitioner.

Roberts, John B., M.D., Philadelphia. *The Science of Successful Surgery.* Reprint from the Journal of the American Medical Association.

Solis-Cohen, J., M.D., Philadelphia. *Common Membranous Sore Throat.* Reprint from the New York Medical Journal.

Vander Veer, A., M.D., Albany, N. Y. *Relation of the Abdominal Surgeon to the Obstetrician and Gynecologist.* Reprint from Gaillard's Medical Journal.

LETTERS RECEIVED.

Dr. H. F. Walter, Gladbrook, Ia.; A. S. Burdick, West Hallock, Ill.; Dr. E. C. Loehr, Noblesville, Ind.; Dr. C. S. Pixley, Elkhart, Ind.; Dr. James M. Jacks, Montreal, Canada; Dr. A. J. Brockett, Cleveland, O.; Dr. J. J. Mulheron, Detroit, Mich.; Dr. Frank Allport, Minneapolis, Minn.; Dr. R. J. Dunglison, Philadelphia; Dr. Geo. C. Ober, Washington, D. C.; Good Health Publishing Co., Battle Creek, Mich.; Dr. John S. Coleman, Augusta, Ga.; Dr. A. C. Ames, Hebron, Neb.; Dr. H. C. Pearce, Urbana, O.; Dr. E. C. Traver, Franklin, N. Y.; Mellier Drug Co., St. Louis, Mo.; Dr. R. F. Price, Waynesburgh, O.; Miner & Elbreg, Indianapolis, Ind.; John G. Reed, Cincinnati, O.; Providence Chemical Works, St. Louis, Mo.; Dr. A. L. Hummel, Philadelphia; Lehn & Fink, Eisner & Mendelson, New York; Dr. J. G. Carpenter, Stanford, Ky.; Dr. Samuel N. Nelson, Boston; Dr. C. J. Proken, New York; Dr. H. W. Shove, Woodbury, Conn.; Dr. H. D. Niles, Salt Lake City; Dr. J. H. Thornton, Lansing, Ia.; Dr. F. M. Thomas, Samantha, O.; Dr. J. W. Trabert, Annville, Pa.; Dr. P. P. Nichols, Searsport, Me.; F. A. Field, Rutland, Vt.; Dr. Wm. B. Canfield, Baltimore, Md.; Dr. S. P. Bishop, Delta, O.; Dr. E. J. Tidd, Clark, Pa.; Theodore Metcalf & Co., Boston, Mass.; Soden Mineral Springs Co., New York; Dr. L. S. McMurtry, Paris, France; Dr. H. K. Myers, Chambersburg, Pa.;

Thos. Leeming & Co., New York; Codman & Shurtleff, Boston; Daniel Green & Co., New York; Medical and Surgical Sanitarium, Battle Creek, Mich.; Dr. John H. Clark, Mechanicsburg, O.; Geo. F. Lasher, Philadelphia; W. H. Schieffelin & Co., New York; Dr. A. M. Wilber, West Unity, O.; M. A. Spencer & Co., Cincinnati; Battle & Co., St. Louis; Dr. A. G. Young, Augusta, Me.; John C. Jenkins, Louisville, Ky.; Henry L. Hayes, Washington, D. C.; Galvano-Faradic Mfg. Co., New York; Dr. W. W. Seymour, Troy, N. Y.; J. B. Lippincott Co., Philadelphia; Springer Torsion Balance Co., New York; Dr. J. N. Eldred, Chesaning, Mich.; Maltine Mfg. Co., New York; Farwell & Rhines, Watertown, N. Y.; Doliber-Goodale Co., Boston; Packer Mfg. Co., New York; Chas. Lentz & Sons, Philadelphia; Lambert Pharmacal Co., St. Louis; Dr. J. L. Slaight, Hot Springs, Ark.; Dr. James P. Marsh, Green Island, N. Y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 6, 1889, to April 12, 1889.

PROMOTIONS.

Charles C. Byrne, Surgeon U. S. Army, promoted Surgeon, with the rank of Lt.-Col., to rank from March 29, 1889.

Curtis E. Munn, promoted from Asst. Surgeon to Surgeon, with the rank of Major, to rank from March 29, 1889.

By direction of the President, Capt. Paul R. Brown, Asst. Surgeon, will report in person to Brig.-Gen. John R. Brooke, President of the Army Retiring Board at Omaha, Neb., for examination by the Board. Par. 9, S. O. 50, A. G. O., Washington, April 6, 1889.

By direction of the Secretary of War, leave of absence for six months is granted Capt. Charles S. Black, Asst. Surgeon, to take effect after the arrival at Ft. Sidney, Neb., of Acting Asst. Surgeon Robert P. Finley. Par. 14, S. O. 78, A. G. O., Washington, April 4, 1889.

By direction of the President, the State of Wisconsin is transferred from the department of the East to the Department of Dakota. G. O. 36, A. G. O., Washington, April 6, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 13, 1889.

P. A. Surgeon A. C. Heffenger, found unfit for duty at present, by Retiring Board, but not permanently incapacitated for active service, and granted one year's leave of absence for medical treatment.

P. A. Surgeon W. R. DuBose, detached from the U. S. S. "Constellation" and ordered to the practice ship "Jamestown."

C. H. T. Lowndes, commissioned an Asst. Surgeon in the U. S. Navy March 13, 1889.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending April 13, 1889.

Surgeon John Godfrey, to proceed to Poughkeepsie, N. Y., on special duty. April 10, 1889.

P. A. Surgeon F. W. Mead, to report in person to the Supervising Surgeon-General, April 3, 1889. Detailed as Acting Chief Clerk Marine Hospital Bureau, and attending surgeon, port of Georgetown, D. C. April 10, 1889.

P. A. Surgeon W. A. Wheeler, relieved from duty at Buffalo, N. Y., to assume charge of the Service at Norfolk, Va. April 3, 1889.

P. A. Surgeon S. C. Devan, relieved from duty as Acting Chief Clerk, Marine Hospital Bureau, and attending surgeon; to assume charge of the Service at Buffalo, N. Y. April 3 and 12, 1889.

Asst. Surgeon W. J. Pettus, granted leave of absence for four days. April 6, 1889.

Asst. Surgeon J. B. Stoner, to rejoin station (New York) as soon as practicable. April 11, 1889.

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CHICAGO, APRIL 27, 1889.

No. 17.

ORIGINAL ARTICLES.

POPULAR FALLACIES REGARDING ATHLETES AND ATHLETICS.

BY IRVING ROSSE, M.D.,

OF WASHINGTON, D. C.

As a branch of medicine that has for its object the bringing of man to a greater state of physical perfection, the question of athletics has for the more advanced and liberal minded of our profession the highest interest.

In our parliamentary city where so many persons suffer from the effect of sedentary life, the athletic remedy seems to be the only sensible one, and it is daily becoming more apparent that a growing demand for athletics exists among the bright young men of the civil service who are fast replacing the sick, the infirm, and the political paretics that formerly filled the government departments. It is, therefore, with much gratification that we can point to the organizations of the Columbia Athletic Club of 450 members, and note the very favorable auspices under which it takes departure, owing to the liberality of a wealthy citizen, Mr. John McLean, formerly of Cincinnati.

The War Department, too, shows increased concern in the somatic efficiency of the material composing the Army. Dr. Greenleaf, of the Surgeon-General's office, has lately interested himself in the study of Dr. Sargent's anthropometric system with a view to its general introduction into the service. Any measure that will raise the physical standard in our little army is, of course, worthy of the highest praise. Even West Point men are physically far below the popular conception. A large proportion of them cannot swim, and generally speaking, the educational means of elevating the physical powers are not at the Military Academy what they should be. Acute indigestion and affections of the alimentary canal are more common than is generally supposed among the cadets, and inability to support a little fatigue and atmospheric vicissitude, such as that encountered at the inauguration of General Grant in March, 1873, does not give a very favorable exhibit, judging from the sick reports of that month, which shows a total of

195, while a larger number of artillerymen, nearly all of whom got wet the night before the inauguration, shows but thirty-three sick. The proportion of sick among the naval cadets, also present, was notably less—a circumstance that speaks well for the reorganization of Admiral Porter, who, by the way, has correct and enthusiastic notions in regard to physical culture, which have been introduced at the Academy. To any one witnessing the parade on the forementioned occasion the fresh, ruddy appearance of the midshipmen was in striking contrast to that of the cadets. A few years since at the Artillery school at Fort Monroe, of fifty-three officers, mostly young graduates, only eight could swim, and but three well; three more knew a little about boxing, and two could put up the dumb bell of sixty pounds—facts that go to show that military drill alone is a poor means to attain the athletic habit of body so becoming to a soldier.

Aside from military considerations, it may be laid down as an axiom, that in order to have a strong nation the palestric element must enter. Many popular fallacies concerning athletes and athletics still prevail to a great extent, not only in the general community, but among medical men, and this mainly for the reason that heretofore most of the published opinions relatively thereto have emanated either from athletes who knew nothing of medicine, or from physicians who were not athletes. In these days when errors are being dispelled and the mists of prehistoric times are finally rolling away, a thoughtful man is often astonished at the persistency of many popular fallacies, which, as a matter of fact, are no better than the groundless superstitions about Friday, thirteen at table, or the alleged coincidence of the red-headed girl and the grey horse—all of which exemplifications may be classed in the same category of sophistical reasoning with much that has been written and accepted respecting athletics.

Physicians are often accused of their deficiencies in the science of logic, and in many instances very justly so, but I am not at all prepared to believe that as a class they are any more deficient in this respect than other people. Without attempting to take up their cause, I will admit that the records of medical literature are

filled with rubbish, and that medicine continues to deserve the designation of an art rather than that of a science, mainly for the reason that some medical men will rush into print with no suggestion as to the insufficiency of the evidence adduced in order to establish a new truth. This gives rise to that common and most fatal of all errors, a post-hoc conclusion. If I were writing a book on errors in reasoning, and wanted to exemplify false ratiocination or deduction, I do not know of a more prolific source than that of sciolistic medicine, from which I might borrow pathological illustrations so to speak.

I might also quote various authors who, in regard to physical exercises, have carried their invectives so far as to have substituted prejudice for reason, and have generalized from insufficient observation.

Mr. Wilkie Collins' attempt to bring athletics into disrepute in "Man and Wife" is but a vulgarization of the professional opinion held and promulgated by many physicians; and it needs but a superficial acquaintance with current medical literature, to find the most unqualified condemnation of athletics, and the warnings against their evil consequences.

One writer says they cause hernia and aneurism, another heart disease, while a third asserts that athletes soon grow stale and are short lived. These, with many other alleged hurtful consequences have been put forward with all the pretension of spectacted gravity to give them currency. It is easy to understand from what point of view Mr. Collins regards athletics. Being a small, round shouldered man, with a shambling gait, it is not surprising that his connotation should assume something of a lame man's opinion of dancing, but observation and experience do not justify the deductions of physicians who stigmatize athletics. I have known many hundreds of athletes in different parts of the world, and I have yet to learn of more than one case of hernia resulting from over-exertion. The mechanical impossibility of producing a hernia on a dead body, even if the abdomen be forcibly compressed, if gaps be made in its walls, and the belly subjected to several hundred-weight, and even to horse-power, would seem to demonstrate that hernias do not originate from violent muscular efforts, but are already present, being generally congenital.

Concerning the prevalence of aneurism and heart disease among athletes, there are many current errors that reflect the common judgment. A noted athlete dies of heart trouble, phthisis or paralysis, upon which popular judgment, and regrettable to say, the unthinking medical man draw a post-hoc conclusion. It requires but little thought to upset this fallacy.

Athletes, as a class, are not short lived. On the contrary, many who have led sober and regular

lives have attained extreme old age. It is hardly necessary to refer to the historical mention of Socrates, who at the age of 60, an age when officers of the Army and Navy are retired, served as hoplite in the Peloponnesian war, and though covered with heavy armor took upon his shoulders a wounded man whom he carried into camp while being pursued by the enemy.

In England the general impression among many is that the occupation of pugilist, instead of being hurtful, is a remarkably healthy one, and it is generally admitted that they live longer than any other men. This assertion is supported by facts that are recognized and commented upon by Dr. Royer-Collard in his celebrated work on *Organoplastie Hygènique*. We have numerous instances of old athletes who have not become stale. Many persons have heard of old Gabe Ravel, who at a very advanced age, turned back sommersaults. Frenchmen also know of Madame Saqui, who at the age of 70, in Paris, walked a wire stretched at a great height. Circus men are not only healthy, but long lived. The famous clown of London, Joe Wallet, was ten years ago considerably over 70, and as lively and active as he was forty years previously. Old Orde lived to considerably over 90, and a short time before his death, gave bareback performances. Batty was in the business till past 70, and Franks some years since was tumbling somersaults and posturing at Hengler's considerably over 60, and as fresh as a daisy. An inquiry extending over more than fifty years shows that the men who rowed in the Oxford and Cambridge crews lived on an average longer than the men who did not row. The former champion Greco-Roman wrestler, William Miller, informs me that he knows of many athletes who have attained a good old age, and his opinion, the one held generally by professionals, is that the proper employment of athletics united to a regular life is highly conducive to longevity. Mr. Phineas T. Barnum tells me that he considers the exercises of a well conducted circus to be of the most healthy character, developing the performers chiefly into muscle, and making them the most vigorous people living. As a class, they are long lived, in fact more so than persons in ordinary occupations, especially when they have been temperate. Among very old English pugilists may be mentioned Belasco, Adams, and the older Stevenson. A few years since the sporting papers recorded the death, at an advanced age, of Owen Swift, whose extraordinary career as a prize fighter, may be seen in the musty old files of fifty years ago, he then being in the thirties, while Tom Sayers was still in swaddling clothes, and had already killed one man before Jem Mace was born. Some time since the death of Bendigo, who passed from the prize ring to the pulpit, was reported at 68 years; and during the last year

two other noted pugilists have died at advanced age. One of them, Jem Ward, born in London on Christmas day, 1800, was perhaps the oldest boxer in the world. Most New Yorkers can recall Ottignon and "Pop" Whittaker in this connection. I know yet of an old man of 75, who still puts up his hands in a surprising manner and, barring eye sight, is well preserved.

A few years since, in San Francisco, I was walking in the street with the Secretary of the Olympic Club, who talked to me of this very matter, when we came across a very old man, whom he pointed out as a corroborative instance of what he was telling me. This man in days gone by, had been an athlete of the most violent kind, in fact, a man who had misused athletics by such feats as walking a thousand miles in a thousand hours and other like senseless performances.

The untimely death of several notables who have figured extensively in the athletic world during the last fifteen or twenty years, has, in every instance, as far as could be ascertained, been owing to preventable or to immoral causes, the nature of which it is not necessary here to specify. The possibility of over-exertion being the cause of impaired health in after-life is exceedingly problematical.

The result is rather owing to immoderate indulgence and to the neglect of simple hygienic rules. It is, of course, possible for one to abuse and overdo physical exercise, just as one may do by eating too much bread and thereby poisoning oneself; but enlightened common sense would say that in a misuse of this kind, it is the man, not the bread or the athletics that should bear the blame.

On this subject, Dr. Sargent, of Harvard, tells me that he thinks it but fair to state that in many instances the early demise of athletes cannot be directly attributed so much to the results of athletic work as to the free indulgence of gross appetites and passions which they have not the moral power to control, and where this was not the case, they lived beyond the average. From extensive personal knowledge he knows of but two deaths attributable to over-exertion; the others were from dissipation, and its train of attendant evils. Inquiry seems to establish the fact that the occupation of athletics is more favorable to longevity than many of the mechanical and industrial pursuits, notably those of shoemaker, tailor, baker, clerk or miner; and if further trust may be placed in vital statistics, merchants, capitalists, financiers and persons engaged in the transfer of property have not the same lease of life.

I have now put in light a sufficient number of facts the very opposite from those of other observers, who seem to have limited their sphere of action to but one side of the question.

My collection of facts may be wanting in delicate analysis, and the homogeneity and regularity indispensable to science; but the observation of such as I have brought forward, even when observed without the aid of method, forces upon us the induction that no good reason exists for the wholesale condemnation of athletics. On the contrary, it is evident that the healthy exercise of the physical powers, is one of the necessary pastimes of a manly and vigorous race; and that next to food and sleep athletics has the largest share in the recreation of human life. It is, therefore, high time that the conventional opinion of certain medical men and of some educators on this subject should be set aside, and that all the manly sports should be encouraged, and fostered with a view to promote qualities that intimately concern not only the happiness and usefulness of individual life, but also the good of society, and the future of the human race.

SCARLATINIFORM RASHES.

Read before the St. Louis Medico-Chirurgical Society, Oct. 30, 1888.

BY JOSEPH GRINDON, M.D.,

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There is made no claim of originality for this paper, as it consists simply in a re-arrangement of what is to be found in the text-books and current literature of the day. My object has been to group together in this form those erythemata and other diseases of the skin which may by their resemblance to scarlet fever lead to errors of diagnosis, believing that the setting of old truths in a new light is not devoid of benefit.

The early *roseola of syphilis* may somewhat resemble scarlatina, especially when attended with throat complications and syphilitic fever. It is not necessary to do more than allude to the possibility of mistake here.

It was long since noted, by Sir James Paget, that the wounded are specially predisposed to scarlet fever. This was confirmed later by many eminent French and English observers. Mr. Holmes, while admitting the fact, contended that many so-called cases of "surgical scarlet fever" were really due to septicæmia or pyæmia, to the absorption of some other than the true scarlatinous poison. I believe that the predisposition above spoken of, and also the existence of a *scarlatiniform septicæmic rash*, are now admitted on all sides, but there seems still to be considerable difference of opinion as to the relative prevalence of the two.

The appearance of a scarlet rash in a puerperal woman gives scope for the exercise of one's diagnostic powers. The date of delivery marks a change in the receptivity of woman for the contagious diseases. The pregnant female is less,

and the puerperal female is *more* liable than others. Not only so, but the disease is apt to run a malignant course in the latter condition. It is in the occasionally mild cases, however, of scarlatina puerperalis that the difficulties of differentiation arise. For there has been observed a septicæmic rash in this condition essentially the same as that due to sepsis occurring as a surgical complication. It may present, as in a case observed by myself some years ago at the Female Hospital, a most deceptive counterfeit of true scarlatina. Dr. J. C. Thomas, in the *Journal of Cutaneous and Venereal Diseases* for January, 1885, gives the points of differential diagnosis as follows: "The absence of the history of the prodromata of scarlatina, the absence of throat symptoms, the moderate temperature and the moderate amount of constitutional irritation, the history of the development and decline of the eruption and the character of the desquamation." The last is apt to be in large scales and strips. The fever is slight and other evidences of sepsis usually not pronounced. In the three cases reported by the writer just mentioned the rash appeared on the second, fifth and ninth post-partum day, severally. The eruption remained out seven or eight days in these cases. Duhring thinks the rash appears between the third and fifth days.

The period of invasion or first day or two of eruption of variola is sometimes marked by the appearance of an *adventitious rash* which may be roseolar, urticarial or petechial, but which at times, as in a case of mine, simulates true scarlatina of the most intense type. It should be remembered, however, that smallpox and scarlet fever may occur in the same individual at the same time. The adventitious erythema, however, is more short-lived than the exanthem it mimics, and will also be without a history of scarlatinal contagion. Where both contagia are present one may well pause before giving a decided opinion. It was once my fortune to have under my care a family consisting of a mother and three children. The mother and one child had smallpox, another child at the same time had unmistakable scarlet fever, and the third died exsanguine from repeated hæmorrhages from various mucous orifices. Had it not been for a few abortive papules about the wrists, the diagnosis between scarlatina hæmorrhagica and variola hæmorrhagica would not have been made.

Diphtheria is at times accompanied by a cutaneous manifestation which may be scarlatiniform, although oftener roseolar. A case of this kind was reported by me, and another by Dr. Hermann, before this Society last April. Bearing in mind the fact that scarlatina anginosa may present patches of necrotic membrane on the fauces, palate, etc., constituting the so-called "scarlatinal diphtheria," in which the membrane is essentially identical with that found in primary diphtheria,

the difference being, according to most observers, purely etiological, it can easily be seen how difficult the diagnosis between scarlatinal diphtheria and diphtheria with scarlatiniform erythema may become, especially when we add another complicating factor to the problem, which is, that true diphtheria and scarlatina may co-exist in the same individual. J. Lewis Smith claims to have seen cases of uncomplicated primary diphtheria derived from the last named complication, thus establishing, if we accept the observation, the true diphtheritic nature of the process in the last named class of cases.

As to the establishment of the separate identity of "scarlatinal diphtheria" and diphtheria with scarlatiniform rash, we must remember that although there would probably be in both adenopathy and perhaps albumiuria, that in the first named disease there is never, according to Koven and Hensch, secondary paralysis. Of course there may be paresis from inflammation, or necrosis of muscular tissue. The fugacious character of the symptomatic erythema would be its chief diagnostic feature. There have been recognized two forms, one, early, accompanied with but little fever, and another, late, the effect of sepsis.

Dr. Brocq, of Paris, in an article on "Desquamative Scarlatiniform Erythema," in the *Journal of Cutaneous and Venereal Diseases* for August, 1885, from which I draw largely, says that this affection "is characterized by an initial stage of pronounced fever, similar to that of scarlatina; by an intense redness of the entire cutaneous surface, which subsequently peels off in flakes; and by the occurrence of complete recovery in from three to six weeks." After the subsidence of the primary attack the disease tends to reappear three or four times, or even oftener. Hence the word "relapsing" has been prefixed to its designation. The doctor had at the date mentioned collected 14 cases.

The eruption is preceded by a precursory stage of variable duration, sometimes lasting several days, during which there are feelings of discomfort and fatigue, and rigors followed by high fever, attended at times with violent head and back ache.

The point at which the cutaneous lesion first appears is sometimes on the upper and sometimes on the lower part of the body, usually diffusing itself over the whole surface in twenty-four hours, although it may take as long as four to six days. The face, as in scarlatina, is usually not so red as the rest of the body. In a general way it may be said that the extensor surfaces are of lighter tinge than the flexor. The abdomen, however, is often quite dark. The redness can be temporarily obliterated by pressure of the finger.

The time at which desquamation appears can not be accurately determined, but it is often three or four days after the eruption has reached its

height, and while it is still in full florescence. This phenomenon is first noticed at the regions earliest implicated and is remarkable for its flaky character, the flakes being large, thin and transparent, and for its abundance. In one case mentioned by the author from whom the main facts of this description are taken, three litres of scales were collected in five days. On the face the scales are smallest, in fact furfuraceous, and are largest about the neck. On the palms the same desquamation *en masse* may take place as is observed in scarlatina. With the outset of desquamation the constitutional symptoms disappear. The mucous membranes of the throat and eyes are sometimes reddened.

The period of scaling averages between two and three weeks of duration.

The diagnosis between this disease and scarlatina is difficult when we have to do with a first attack, and sometimes only a retrospective diagnosis will be possible. But in this disease the onset is less abrupt than in scarlet fever, the redness of the skin is more marked and often persists after the eighth day, desquamation is more abundant, is lamellated, and frequently repeated. The disease is non-contagious, and nephritis and adenopathy are never present. Cases of this kind have been reported by Besnier, Féréol, Duhring and others, and seem to have been included by Bateman under the head of pityriasis rubra, a name since restricted to a different and much graver affection.

Hardy has described a *scarlatiniform erythema*, the *roseola scarlatiniforme* of Bazin and *erythema punctatum* of McCall Anderson which lasts from 24 to 48 hours, presents an appearance of the skin almost identical with that of scarlatina, and is followed by some scaling off. It seems always to depend upon gastric derangement and is non-contagious. The points which distinguish it from scarlatina are, that the pulse remains nearly at the normal, the tongue continues to present its normal appearance, and that there are no sequelæ of any kind. Of course it is as liable to occur in one having had scarlatina as in anyone else, and, on the other hand, confers no immunity against that disease.

The early stages of *pityriasis rubra*, or *dermatitis exfoliative*, may be mistaken for scarlatina. But in the affection known under these two names there are no prodromata, the temperature is generally lower, and the course of the disease, except just at first, altogether different.

I have reserved a brief notice of the best marked of the scarlatiniform rashes due to the ingestion of drugs for the end of this paper. A thorough treatment of even this limited portion of the subject of dermatitis medicamentosa would exceed my powers of performance and yours of attention. The subject is growing every day, because, first, it is not long since it began to receive

the attention it deserves, and second, from its very nature it ever must grow. As new drugs are introduced new drug eruptions will be heard of.

Perhaps the most truly scarlatiniform of these is that produced by *belladonna* or *atropia*. It was this which led believers in the doctrine of similars to use the drug in the treatment and prophylaxis of scarlatina. In this, as in all forms of medicamentous dermatitis, personal idiosyncrasy is the chief etiological factor, the most marked effects sometimes following the smallest doses. Children are said to be more obnoxious to this accident than adults, but that it is by no means confined to them may be illustrated by the following observation.

A lady 67 years of age had a few drops of a solution of the sulphate of atropia, 2 grs. to the ounce, dropped into each eye. She soon complained of dizziness, intense faucial dryness and general pruritus. On examination I found both pupils dilated *ad maximum*, and the face and neck of a bright scarlet hue, which gradually faded and disappeared in something less than twenty-four hours. Six months later the same procedure was followed by the same results. It is manifestly unnecessary here to indicate points of diagnostic difference, but I may be permitted to call attention to the fact that the belladonna eruption is most profuse where the exanthem is usually palest, *i. e.*, about the face.

The *chloral* eruption is sometimes much like that last described, lasts from a half to four hours, and may be followed within twenty-four hours by light desquamation. The occurrence of a relapse after discontinuance of the medicine has been observed and need not cause us to change our minds as to the drug and the erythema bearing to each other the relation of cause and effect.

The cutaneous accident due to the ingestion or absorption of *mercury* is often scarlatiniform. A dose of 2 grains of calomel has been known to bring out a copious eruption.

Opium and *morphine* bring out at times a rash of this type, which, like scarlatina, is apt to be best marked on the flexor surfaces. It is occasionally followed by desquamation, glove and stocking casts having been shed off as in the exanthem. To make the resemblance greater, there is at times an erythematous inflammation of the pharynx.

The *quinine* eruption may at times closely simulate scarlatina. The absence of characteristic prodromata, of sore throat, of the rapid pulse and the characteristic tongue should aid us in detecting the counterfeit. Here again there has been observed desquamation similar to that following the opium rash, as in a case reported to this Society by Dr. Wolfner.

The eruption due to *oil of turpentine* is likewise sometimes followed by desquamation.

Digitalis, *stramonium*, *strychnia* and *salicylic acid*

might also be mentioned here. The list of drugs which have been known to produce eruptions having some resemblance to that of scarlet fever might be greatly extended, but my desire is to mention only those the effects of which would be most likely to mislead in the particular direction now under consideration. I suppose it is well understood that the medicaments mentioned may produce effects differing widely from those which have been described. In fact it would seem that the particular type of the cutaneous accident depends more upon individual peculiarity than upon the drug administered.

I am chiefly indebted for the facts mentioned in the last part of this brief review to the writings of Arthur van Harlingen and P. A. Morrow, which all may consult with benefit.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

FIFTH PAPER.—GEOGRAPHY.

Medical geography is, equally with historical pathology, one of the most fruitful means of etiological research. It enables us to become acquainted with the different regions of the globe in which certain diseases prevail, and thus allows upon the grandest scale the study of cosmic, tellurial and even anthropological conditions that may favor or hinder their development.¹

Pneumonic fever prevails in every part of the world, but, as is the case with all other maladies, it is more common in some localities than in others.² It is more prevalent in temperate than in either frigid or torrid regions. Beginning at the poles, its frequency increases in a gradual manner until the maximum is attained at a certain latitude in either temperate zone, and from these points it diminishes as we approach the equator, so that in some tropical countries the malady is somewhat of a nosological rarity.³ This is only true as a general proposition, and there can be found so many apparent exceptions that it is quite clear that latitude alone has no influence over the prevalence of the disease.

The influence of latitude upon the prevalence of pneumonic fever is shown in the following table:

TABLE X.—SHOWING LATITUDINAL PREVALENCE OF PNEUMONIC FEVER.

LOCALITY.	DEATH RATE.	
	Per 100 Deaths.	Per 1,000 Persons.
0°-10° North.		
Ceylon . . . . .		.70
Sierra Leone . . . . .		.50
Average . . . . .		.60
10°-20° North.		
Antilles		1.30
Bombay . . . . .		.40
Central America		1.82
Jamaica . . . . .		.30
Madras . . . . .		.70
Average . . . . .		.90
20°-30° North.		
Bengal		1.40
Cuba		1.40
Florida	6.6	.74
San Antonio	1.9	.33
Sandwich Islands	2.0	.61
Averages	3.5	.89
30°-40° North.		
Alabama	9.7	1.38
Algiers		2.10
Arizona	10.3	.75
Arkansas	13.2	2.43
Baltimore	6.5	1.13
Bermuda . . . . .		.60
California	10.6	.74
Charleston	3.6	1.30
Cincinnati	6.7	1.54
Colorado	18.0	1.92
Delaware	6.6	.83
Denver	14.3	1.85
District of Columbia	9.0	2.05
Georgia	7.8	1.09
Gibraltar . . . . .		.70
Kansas	9.0	1.60
Kentucky	8.0	1.09
Knoxville	9.0	1.55
Louisiana	12.7	1.56
Malta . . . . .		.50
Maryland	8.0	1.13
Memphis		2.50
Mississippi	12.2	1.57
Missouri	13.3	2.18
Nevada	20.2	2.36
New Mexico	6.5	1.34
New Orleans	4.4	1.59
North Carolina	5.9	.91
Petersburg	7.0	1.75
Philadelphia	6.2	1.30
Richmond	5.1	1.29
San Francisco	8.0	1.63
Savannah	5.2	1.70
Selma	12.0	2.00
South Carolina	7.6	1.12
St. Louis	6.3	3.77
Tennessee	8.6	1.41
Texas	10.4	1.59
Utah	12.2	2.06
Virginia	7.7	1.24
West Virginia	5.8	.70
Averages	7.8	1.51
40°-50° North.		
Austro-Hungary		2.42
Bavaria		2.20
Belleville, Ont.	3.7	.63
Boston	5.3	1.23
Brantford, Ont.	9.0	1.27
Brooklyn	8.0	1.71
Canada		1.32
Chicago	5.5	1.09
Cleveland	5.7	1.41
Connecticut	6.6	1.15
Dakota	8.4	.81
France		1.90
Geneva		1.30
Guelph, Ont.	4.3	.63
Hamilton	5.4	1.13
Hartford	7.4	1.66
Idaho	10.8	1.09
Illinois	9.6	1.48
Indiana	9.0	1.60
Iowa	8.1	1.00
Italy		1.85
Kington	4.3	.87
London, Ont.	6.2	.99
Maine	8.3	1.68
Massachusetts	6.6	1.35
Michigan	5.8	.80
Milwaukee	5.5	.69
Minnesota	5.0	.58
Montana	9.5	.52

¹ Charcot, Diseases of Old Age, N. Y., 1881, p. 85.

² Huss—Lungenentzündung, etc., Leipzig, 1861, p. 2—says that the prevalence is everywhere the same.

³ For a discussion of this entire question see Lennec, Traité de l'auscultation Médiate, Paris, 1819; Swett, Diseases of the Chest, N. Y., 1856, p. 79; Grisolle, Traité Prat. de la Pneumonie, Paris, 1841, p. 124; Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v. S. 13; Fonssagrave, Encycl. des Sci. Méd., T. xviii, 1876, art. Climate; Hirsch, Handb. d. Hist.-Geog. Path., Erlangen, 1860-64, Bd. ii, S. 26; Flint, Am. Jour. Med. Sci., Jan., 1861, p. 17; Green, Quain's Dic. Med., N. Y., 1883, p. 874; Sanders, Am. Jour. Med. Sci., July, 1882, p. 94; Ziemssen, Prager Vierteljahrsschr., 1885.

LOCALITY.	DEATH RATE.	
	Per 100 Deaths.	Per 1,000 Persons.
Montreal	4.0	1.02
Nebraska	7.1	.92
New Brunswick	1.10	1.10
Newfoundland	1.30	.30
New Hampshire	1.32	1.32
New Haven	1.20	1.20
New Jersey	4.8	1.10
New York	7.2	1.63
New York City	2.63	2.63
Nova Scotia	1.10	1.10
Ohio	6.4	.75
Ontario	5.3	.51
Oregon	4.3	.57
Ottawa	3.5	1.20
Paris	2.56	2.56
Pennsylvania	1.73	.97
Pittsburgh	1.65	1.65
Providence	1.2	1.50
Rhode Island	2.4	.90
Rochester	5.5	.90
St. Catharines	1.13	1.13
St. Paul	1.73	.77
St. Thomas, Ont.	1.3	.97
Switzerland	1.50	1.50
Toronto	1.34	1.34
Turin	2.20	2.20
Vermont	1.49	1.49
Washington	7.1	.71
Wisconsin	7.5	.75
Wyoming	.90	.90
Zürich	2.05	2.05
Averages	1.21	1.21

Belfast	44
Belgium	.85
Berlin	1.21
Breslau	1.20
Copenhagen	1.71
Cork	.46
Denmark	1.57
Dresden	.40
Dublin	.81
Edinburgh	1.42
England	1.25
Faroe Islands	.71
Germany	1.34
Germersheim Garrison	.70
Ghent	1.21
Halle	2.29
Hamburg	3.3
Iceland	.79
Ireland	.27
Leith	1.50
Limerick	.60
London	1.60
Netherlands	1.00
New Archangel	2.30
Norway	.29
Russia	1.05
Scotland	.73
Sweden	1.60
Würzburg	1.50
Averages	1.12
St. Helena	.80
20°-30° South.	.72
Australia	.72
30°-40° South.	.70
Cape Colony	1.00
Cape Town	.85
Average.	.85

RESUME.

LATITUDE.	No. of Places.	Per 100 Deaths.				Per 1,000 of Pop.			
		Mean.	Maximum.	Minimum.	Fluctuat'n.	Mean.	Maximum.	Minimum.	Fluctuat'n.
0°-10° North	2					.60	.70	.50	.20
10°-20° "	5					.90	1.82	.30	1.52
20°-30° "	95	3.5	6.6	1.9	4.5	.89	1.40	.33	1.07
30°-40° "	41	7.5	20.2	3.0	16.6	1.51	3.77	.50	3.27
40°-50° "	60	6.7	10.8	4.0	6.8	1.21	2.56	.30	2.26
50°-60° "	29	4.6	7.6	2.9	4.7	1.12	2.30	.27	2.03
10°-20° South	1					.80	.80	.80	.00
20°-30° "	1					.72	.72	.72	.00
30°-40° "	2					.85	1.00	.70	.30
Total and averages	145	7.1	20.2	2.9	17.1	1.27	3.77	.27	3.50

Sanders' claims that in North America pneumonic fever increases in frequency from east to west, whilst in Europe it does so from west to east, but a glance at Table XI shows that longitude alone has but little influence over the prevalence of the disease.

TABLE XI.—SHOWING LONGITUDINAL PREVALENCE OF PNEUMONIC FEVER.

LOCALITY.	DEATH RATE	
	Per 100 Deaths.	Per 1,000 Persons.
0°-10° West		
Belfast		44
Cork		.46
Dublin		.81
Edinburgh		1.42
England		1.25
Faroe Islands		.71
Gibraltar		.70
Ireland		.27
Leith		1.50
Limerick		.60
London		1.60
Scotland		.73
Sierra Leone		.50
St. Helena		.80
Average		.55
10°-20° West		
Iceland		.79
50°-60° West.		
Newfoundland		.30
60°-70° West		
Antilles		1.30
Bermuda		1.30
Maine	8.3	1.68
New Brunswick		1.10
Nova Scotia		1.10
Providence	7.2	1.50
Rhode Island	6.4	.90
Averages	7.3	1.15
70°-80° West		
Baltimore	6.5	1.13
Belleville	3.7	.63
Boston	5.3	1.23
Brantford	9.0	1.27
Brooklyn	8.0	1.71
Canada		1.32
Charleston	3.6	1.20
Connecticut	6.6	1.15
Delaware	6.6	.73
District of Columbia	0.0	2.65
Hamilton	5.4	1.13
Hartford	7.4	1.66
Jamaica		.30
Kingston	4.3	.87
Maryland	8.0	1.13
Massachusetts	6.6	1.35
Montreal	4.0	1.02
New Hampshire	7.7	1.32
New Haven	6.0	1.20
New Jersey	4.8	1.10
New York	7.2	1.63
Ontario	5.3	.51
Ottawa	3.5	1.20
Pennsylvania	7.3	.97
Petersburg	7.0	1.75
Philadelphia	6.2	1.30
Pittsburgh	7.6	1.65
Richmond	5.1	1.29
Rochester	5.5	.90
Vermont	0.8	1.49
Virginia	7.7	1.24
Averages	6.4	1.12
80°-90° West		
Alabama	9.7	1.38
Central America		1.82
Chicago	5.5	1.09
Cleveland	5.7	1.41
Cuba		1.41
Florida	6.6	.74
Guelph	4.3	.63
Illinois	9.6	1.47
Indiana	0.0	1.80
Kentucky	8.0	1.09
Knoxville	0.0	1.55
London, Ont.		.90
Michigan	5.8	.80
Milwaukee	5.5	.90
New Orleans	4.4	1.59

TABLE XI—CONCLUDED.

Ohio	6.4	.75	
Savannah	5.2	1.70	
Selma	12.0	2.00	
South Carolina	7.6	1.12	
St. Catharines	11.0	1.13	
St. Thomas, Ont.	8.8	.07	
Tennessee	8.6	1.41	
Toronto	6.6	1.39	
West Virginia	5.8	.70	
Averages	7.1	1.23	
90°-100° West.			
Arkansas	13.2	2.43	
Cincinnati	6.7	1.54	
Dakota	8.4	.81	
Georgia	7.3	1.09	
Iowa	8.1	1.00	
Kansas	9.0	1.66	
Louisiana	12.7	1.56	
Memphis		2.50	
Minnesota	8.6	.58	
Mississippi	12.2	1.87	
Missouri	13.3	2.18	
Nebraska	7.0	.42	
San Antonio	1.0	.33	
St. Louis	6.3	3.77	
St. Paul	6.3	.77	
Texas	11.4	1.59	
Wisconsin	6.9	.78	
Averages	8.1	1.49	
100°-110° West.			
Colorado	15.0	1.02	
Denver	14.3	1.85	
New Mexico	0.8	1.34	
Wyoming	0.8	.00	
Averages	12.1	1.59	
110°-120° West.			
Arizona	19.3	.75	
Idaho	10.8	1.02	
Montana	9.8	.82	
Nevada	29.2	2.36	
Utah	12.2	2.06	
Averages	12.6	1.41	
120°-130° West.			
California	10.3	.74	
Oregon	4.8	.57	
San Francisco	8.0	1.63	
Washington	7.9	.71	
Averages	7.7	.91	
150°-160° West.			
Sandwich Islands	2.0	.61	
0°-10° East.			
Algiers		2.00	
Belgium		.85	
Denmark		1.57	
France		1.00	
Geneva		1.30	
Ghent		1.21	
Hamburg	3.3	1.80	
Netherlands		1.00	
Norway	2.9	.50	
Paris		2.56	
Switzerland		1.50	
Turin		2.20	
Zürich	8.8	2.05	
Averages	5.0	1.65	
10°-20° East.			
Austro-Hungary		2.42	
Bavaria		2.20	
Berlin		1.21	
Breslau		1.20	
Cape Town		1.00	
Copenhagen		1.71	
Dresden		.49	
Germany		1.34	
Germersheim Garrison	7.6	.49	
Halle		2.20	
Italy		1.85	
Malta		.50	
Sweden		1.60	
Wurzburg		1.84	
Averages	7.6	1.40	
20°-30° East.			
Cape Colony		.79	
30°-40° East.			
Russia		1.05	
40°-50° East.			
New Archangel		2.30	
50°-60° East.			
Bombay		.49	
Madras		.79	
Average		.55	
80°-90° East.			
Bengal		1.40	
Ceylon		.70	
Average		1.55	
130°-140° East.			
Australia		.72	

RESUME

LONGITUDE	No. of Places	Per 100 Deaths				Per 1,000 Persons			
		Mean	Maximum	Minimum	Fluctuation	Mean	Maximum	Minimum	Fluctuation
0°-10° West	15					.85	1.60	.27	1.42
10°-20° "	1					.79	.70	.70	.00
20°-30° "	1					.33	.30	.30	.00
30°-40° "	8	6.3	8.3	6.4	1.9	1.13	1.80	.90	.60
40°-50° "	31	6.3	9.8	3.3	6.3	1.12	2.05	.30	1.75
50°-60° "	24	6.1	12.0	4.5	7.5	1.23	2.00	.63	1.37
60°-70° "	17	6.1	13.1	4.1	9.0	1.49	3.77	.33	3.44
70°-80° "	4	12.1	18.0	6.5	11.5	1.80	1.92	.90	1.02
80°-90° "	9	12.6	20.2	9.5	10.7	1.41	2.36	.75	1.61
90°-100° "	4	7.7	10.0	4.8	5.2	.91	1.63	.57	1.06
100°-110° "	1	2.0	2.0	2.0	.0	.61	.61	.61	.00
0°-10° East	14	5.0	8.8	2.5	5.5	1.65	2.56	.50	2.06
10°-20° "	14	7.6	7.6	7.6	.0	1.49	2.42	.40	2.02
20°-30° "	1					.79	.70	.70	.00
30°-40° "	1					1.05	1.05	1.05	.00
40°-50° "	1					2.30	2.30	2.30	.00
50°-60° "	2					.55	.70	.40	.30
60°-70° "	1					1.55	1.49	.70	.79
70°-80° "	1					.72	.72	.72	.00
Total and averages	147	7.1	20.2	2.0	18.2	1.27	3.77	.27	3.50

Pneumonic fever is met with more frequently on land than upon the open sea or the smaller sea-islands,⁶ although this is denied by some.⁶

The location of cities in proximity to large bodies of water does not appear to exert that influence over the prevalence of pneumonic fever which one would be led to expect.

Thus, 31 lake or inland seaports show a death-rate of 1.35 per 1,000 inhabitants, annually; 90 inland cities, 1.29 per 1,000; and 58 ocean ports, 1.20 per 1,000. An average of the 179 cities gives an annual mortality of 1.26 per 1,000 of population.

It might be a natural supposition that altitude would exercise a marked influence over the prevalence of pneumonic fever, and yet the statistical material at our disposal is of such a nature as to preclude the arrival at a positive conclusion regarding it.

At high altitudes the atmospheric pressure is very considerably diminished, and if the country is, in addition, mountainous, the inhabitants, in ascending the heights, require increased action of the lungs with a corresponding acceleration of the circulation. Under such conditions it might be supposed that the lungs would be in a condition favorable for the development of pneumonic fever, and that this disease is especially prevalent in such localities is affirmed by many authors.⁷

Thus Lombard,⁸ basing his opinion upon the impression of a large number of the practitioners of the mountain tops and high uplands of Swit-

Ziemssen, *Präger Vierteljahrsschr.*, 1858; Hermann, *Lungenentzündung*, etc., S. 6; Swett, *Dis. Chest*, p. 81; Lebert, *Klinik d. Brustkrankh.*, Tübingen, 1874, Bd. i, S. 710; Lépine, *Die Acute lobäre Pneumonie*, Wein, 1883, S. 21; Hirsch, *Handb. d. Hist. u. Geog. Path.*, Erlangen, 1864, Bd. ii, S. 36; Lombard, *Traité de Climatol. Méd.*, T. iv, Paris, 1880, p. 392; Waldenburg, *Die Tuberculose*, etc., Berlin, 1860; Brown, *Jour. Am. Med. Ass.*, March 7, 1885, p. 262; LaRoche, *Pneumonia*, Phila., 1884, p. 51; Williams, *Cycl. Prac. Med.*, Vol. iii, p. 407; Grisolle, *Traité de la Pneumonie*, Paris, 1841; Milliken, *Cincinnati Lancet and Clinic*, Dec. 16, 1882, p. 578. ⁸ Op. cit., p. 392.

zerland and Germany, claims that the prevalence of pneumonic fever gradually increases as we ascend from the sea level, and is met with most frequently in localities of the greatest altitude. Hirsch⁹ says that the disease is very common in the South American Andes, the mountain lands of Abyssinia and the elevated plains of Arabia. It is very prevalent in the Allegheny mountains¹⁰ and on the top of Mont Ceniz.¹¹

On the contrary, it is rare in the elevated cities of Boulder,¹² Denver,¹³ Ft. Bridger,¹⁴ Sorocco¹⁵ and Mexico,¹⁶ and it has even been claimed that there is a lessening of the prevalence as we ascend toward the highest inhabited mountain regions.¹⁷

The relations of altitude and pneumonic fever are shown in the following table:¹⁸

TABLE XII.—SHOWING RELATION BETWEEN ALTITUDE AND THE PREVALENCE OF PNEUMONIC FEVER.

Altitude.	LOCALITY.	Altitude.	LOCALITY.	
10	New Orleans	1,50	285 Hamburg	1,80
10	Stamford	1,86	364 Halle	2,30
15	Norfolk	2,21	400 Memphis	2,50
20	Savannah	1,70	506 Rochester	90
20	Baltimore	1,13	540 Cincinnati	1,54
30	Jersey City	1,70	561 Würzburg	1,50
30	New Archangel	2,30	591 Chicago	1,30
30	Philadelphia	1,30	880 Basle	1,90
35	New York	2,03	940 Burlington	38
35	Brooklyn	1,71	1280 Geneva	1,30
40	Boston	1,23	1500 Winona	81
45	Washington	2,10	1600 Munich	54
150	Marseilles	3,70	5250 Boulder ¹⁹	71
177	Genoa	3,30	5260 Denver ²⁰	1,85
185	Augusta	3,00		
285	Trieste	2,30	Average	1,27

Although pneumonic fever may not be met with so frequently at great elevations, yet in such localities it is very fatal.²¹ Under these circumstances the death-rate bears a large proportion to the actual number of cases or the prevalence.

At an elevation of from 4,000 to 5,000 feet the disease is, probably, not so common as at a lower level, but it is more severe. At an elevation of 7,000 feet or more, epidemics are frequent and the malady is almost always sthenic and malignant, and at an elevation of 10,000 feet it is usually fatal in about three days.²²

EUROPE.—In Europe pneumonic fever prevails

to an extent slightly above the general average, the death-rate being 1.31 per 1,000 inhabitants.²³

Iceland.—On this island pneumonic fever, in common with other thoracic diseases, is comparatively rare,²⁴ it being the cause of 3.2 per cent. of all deaths and an annual mortality of .79 per 1,000 inhabitants.²⁵ In 1863 there prevailed an extensive and very fatal epidemic.²⁶

Norway and Sweden.—In these countries this malady is quite common,²⁷ but varying considerably in different localities.²⁸ The disease pursues an acute course, and when fatal it is rapidly so.²⁹

Faro Islands.—Here pneumonic fever is less prevalent than the average,³⁰ causing only 4.5 per cent. of the deaths and an annual mortality of .71 per 1,000 persons.³¹

Russia.—The disease causes, in this land, 1.5 deaths per 1,000 of population, although in some parts of the country it is much more prevalent.³²

Denmark.—In this country pneumonic fever prevails somewhat above the average, being responsible for 6.4 per cent. of the deaths and 1.57 deaths per 1,000 persons per annum,³³ although it is higher in Copenhagen.³⁴

Germany.—Throughout the empire this disease prevails very generally, and slightly above the average—a mortality of 1.34 per 1,000 inhabitants per annum.³⁵

In the imperial army, during a period of eight years, pneumonic fever caused 12.3 per cent. of the deaths, although the mortality from this cause was but .47 per 1,000 of force.³⁶ At the Germerheim Garrison, during 26 years, it caused 7.6 per cent. of deaths and a loss of .40 per 1,000 soldiers.³⁷

In Prussia, 3.9 per cent. of the deaths in the kingdom at large, and 7.5 per cent. in 14 of her large cities, arise from this malady.³⁸ In Berlin, during 26 years the annual death-rate was 1.12 per 1,000 of population.³⁹ Breslau gives a death-

²³ Sanders—Am. Jour. Med. Sci., July, 1882—gives the proportion as 1.57 per 1,000.

²⁴ Schliessner, Island undersøgt fra et lægeviderskabel syfunkt, Kjöbenh., 1849; Hirsch, Hist. n. Geog.-Path., Bd. ii, S. 22; Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 151; Hjaltekin, Edinb. Med. Jour., April, 1864; Caton, London Lancet, 1884, Vol. ii, p. 135.

²⁵ Sanders, op. cit. ²⁶ Hjaltekin, op. cit.
²⁷ See Halland, Abhandl. d. Schwed. Akad., Bd. xxxvi S. 64; Williams, Cyclp. Prac. Med., Vol. iii, p. 408; Huss, Om Sverges eudem Sjukd., Stockh., 1852, p. 22; et Lungenentzündungen, Leipzig, 1861, S. 3; Harmand, Medicina Lapponum, Goth., 1734; Ziemssen, Präger Vierteljahrsschr., 1838; Hirsch, op. cit.; Browall, Abhandl. d. Schwed. Akad., Bd. v, S. 59; Wistrand, Samendrag af Arsrapporten fra kgl. allmänna Garnison, Stockh., 1851.

²⁸ Walton, U. S. Naval Rpts., 1881, p. 67; Sanders, op. cit., p. 82.
²⁹ Walton, op. cit.

³⁰ Manicus, Biblioth. f. Läger, 1824, p. 15; Panum, Ibid. 1847, i, p. 277; Hirsch, op. cit., S. 22.

³¹ Tulloch, Mortal. Brit. Army; Sanders, op. cit.
³² See Attenhofer, Med. Topog. St. Petersburg, Zürich, 1817; Blumh. Krankh. in Reval, Marburg, 1790; Erdmann, Med. Topog. Kasan, Riga, 1822; Blaschke, Topog. Med. Novi Archangelensis, Petropoli, 1812, p. 66; Bardowsky, Med. Zeitschr. Russl., 1850, Nr. 29; Gebler, Ann. d. Heilk., 1813, S. 330; Rex, Med. Zeit. Russl., 1859, S. 408; Thielmann, Med. Jahresb. von Peter-Paul's Hospit. St. Petersburg, 1810-1851; Jonin, Med. Zeit. Russl., 1849, Nr. 45; Hirsch, op. cit.; Sanders, op. cit.; Bogonodsky, Med. Zeit. Russl., 1854, S. 1.

³³ Sanders, op. cit.
³⁴ Ziemssen, op. cit.; Fox, op. cit., p. 154.

³⁵ Sanders, op. cit.
³⁶ Hermann, Lungenentzündung, München, 1880.

³⁷ Hermann, op. cit.
³⁸ Sanders, op. cit.

³⁹ Ziemssen, op. cit.; Hermann, op. cit.

⁹ Op. cit., S. 36. ¹⁰ Trans. Pa. Med. Soc., Vol. i, p. 105.

¹¹ Chomel, Pneumonie, Leipzig, 1841, S. 312.

¹² Repts. State Board of Health of Colorado.

¹³ Ibid.

¹⁴ Bartholow, Am. Jour. Med. Sci., April, 1860, p. 323.

¹⁵ Naphegyi, N. Y. Journal Med., May, 1855; Müller, Deutsch. Klinik, 1857.

¹⁶ Newton, Méd. Topog. Mexico, N. Y., 1848.

¹⁷ Ziemssen, Präger Vierteljahrsschr., 1838; Sanders, l. c.

¹⁸ Facts regarding height were obtained from Drake, Dis. Int. Valley, N. A., Vol. i, Cincinnati, 1850; Fossagrave, Hyg. et Ass. des Villes, Paris, 1874, p. 75; Sanders, Am. Jour. Med. Sci., 1882; and by correspondence.

¹⁹ This is from Sanders—op. cit.—but is probably an error.

²⁰ Chamberlain—N. E. Med. Monthly, 1883—erroneously credits Denver with the lowest death rate from this disease of any city in the United States, and Sanders gives the death rate at .34.

²¹ Lombard—Climate de Montagnes, p. 70—claims that most of the very fatal epidemics occur in the high mountain valleys, with the spring melting of the snow and ice.

²² Milliken, Cincinnati Lancet and Clinic, Dec. 16, 1882, p. 578. See also Jayne, Phila. Med. News, Nov. 10, 1888, p. 520.

rate of 1.20 per 1,000 inhabitants.⁴⁰ In Hamburg the disease is very prevalent.⁴¹ It is very common in Kiel and Tübingen,⁴² and Halle is peculiarly afflicted, showing an average annual death-rate of 2.29 per 1,000 persons, in a series of ten years.⁴³ Bavaria also shows a high mortality rate from this disease.⁴⁴

Austro-Hungary.—In this country the malady prevails to an extent considerably beyond the average—6.9 per cent. of deaths and 2.42 per 1,000 of population.⁴⁵ It is very common both in Vienna⁴⁶ and Budapest.⁴⁷

Switzerland suffers a death-rate from this disease of 1.50 per 1,000 inhabitants, and 7.8 per cent. of her mortality is due to this cause.⁴⁸ The proportion in the Canton Zürich⁴⁹ and in the cities of Zürich⁵⁰ and Geneva⁵¹ are still greater.

Holland is afflicted by this disease in a degree considerably greater than the average,⁵² although it is less prevalent in Ghent.⁵³

Belgium, as a country, does not suffer severely from pneumonic fever, although her two largest cities are slightly above the average.⁵⁴

Great Britain and Ireland.—In Scotland this disease prevails considerably below the average,⁵⁵ even in the cities,⁵⁶ whilst in England and Wales the prevalence is an average one,⁵⁷ being more common in London,⁵⁸ Bristol,⁵⁹ Bolton,⁶⁰ Kendal,⁶¹ Malvern,⁶² Cornwall,⁶³ and some other localities, and less prevalent in Cheltenham,⁶⁴ Sidmouth,⁶⁵ Guernsey⁶⁶ and Devonshire.⁶⁷ It has been thought by some that the malady is now less prevalent than formerly,⁶⁸ and this opinion is apparently supported by statistics.⁶⁹ Ireland is remarkable for its small death-rate—.27 per 1,000 inhabitants—from pneumonic fever.⁷⁰

⁴⁰ Ziemssen, loc. cit.

⁴¹ Ziemssen—loc. cit.—gives the rate as 2.17 and Walton—op. cit.—as 1.80 per 1,000 inhabitants.

⁴² Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Leipzig, 1877, Bd. v. S. 23.

⁴³ Berensprung, Epidem. Krankh. in Halle, 1854.

⁴⁴ Klinger, Lungenkrankh. in Bayern, München, 1874; Sanders, loc. cit. ⁴⁵ Sanders, op. cit.

⁴⁶ Juergensen, op. cit., S. 12.

⁴⁷ Purjesz, Wiener Med. Wochenschr., 1884, Nr. 2, S. 43; Hampeis, Oest. Med. Jahrb., 1846, Bd. iii, S. 108.

⁴⁸ Sanders, op. cit.

⁴⁹ Weller, Inaug. Diss. Zurich, 1854—S. 49 and 1.08 per 1000.

⁵⁰ Ziemssen, op. cit.; Jahreshb., d. Gesundh., Zürich, 1848, ff.

⁵¹ D'Espine, Mortal. du Canton de Genève en, 1838, Paris, 1840.

⁵² Severon, Nederl. Weekbl. voor Geneesk., 1855, Nos. 22-23; Sanders—loc. cit.—gives the proportion as 7.5 per cent. of deaths and 1.90 per 1,000 of population.

⁵³ Ziemssen, op. cit.

⁵⁴ Sanders, op. cit.

⁵⁵ Orr—Edinb. Med. and Surg. Jour., Vol. lxiii—Steele—ibid., Vol. lxvii—and Stark—ibid., Vols. lxx and lxxi—considered the disease very prevalent, but their figures, when compared with others, do not confirm their belief.

⁵⁶ Sanders, op. cit.

⁵⁷ Farr, Reg. Gen. Rpts.; Sanders, op. cit.

⁵⁸ West, Brit. and For. Med. Chir. Rev., Vol. xv, p. 543; Sanders, op. cit.; Blane, Select Diss., Vol. i, p. 205.

⁵⁹ Symonds, Trans. Prov. Med. Soc., Vol. ii.

⁶⁰ Black, ibid., Vol. v.

⁶¹ Proudfoot, Edinb. Med. and Surg. Jour., Vol. xviii, p. 374.

⁶² Forbes, Prov. Med. Trans., Vol. iv, p. 173.

⁶³ Addison, ibid., p. 137.

⁶⁴ Nash, ibid., Vol. vi, p. 251.

⁶⁵ Jeffrey, ibid., vol. ix, p. 207.

⁶⁶ Haskins, London Jour. Med., Aug., 1852.

⁶⁷ Shapter, Climate of South Devon, London, 1842.

⁶⁸ Harrison, Rot in Sheep.

⁶⁹ Ziemssen, op. cit.; Sanders, op. cit.; Farr, op. cit.

⁷⁰ Ziemssen, op. cit.; Sanders—op. cit.—gives the proportion as .27 per 1,000.

France.—In this country pneumonic fever is very common,⁷¹ especially on the Alpine and Mediterranean borders,⁷² and in Paris⁷³ and some other cities.

Marseilles is particularly afflicted by this malady. The west winds—here called the mistral—sweep over the Bay of Biscay and down the valley of the Rhone, through the break in the mountains between the Pyrenees and the Maritime Alps, recur frequently during the winter, and are very blighting to animal and vegetable life. In one year, during the months of January and February, when the mistral was unusually protracted and severe, there were more than 2,000 cases of pneumonic fever—two-thirds of which were fatal—in a population of 318,000.⁷⁴

The French Army suffers comparatively little from the disease, only 3.9 per cent. of the deaths during a period of 13 years being due to it.⁷⁵ It is also rare in Havre⁷⁶ and Belle-Isle-in-the-Sea.⁷⁷

Spain and Portugal.—Pneumonic fever is rare in most parts of the peninsula,⁷⁸ although common in Lisbon,⁷⁹ Madrid,⁸⁰ and some other cities.

Italy.—This disease is extremely common in Italy,⁸¹ especially in the northern parts. It is also prevalent in the neighboring Islands.⁸²

Greece.—Pneumonic fever is rare in this country.⁸³

Africa.—In the most parts of this continent from which we have any authentic returns, pneumonic fever is very prevalent,⁸⁴ causing an annual mortality of 3.62 per 1,000 inhabitants,⁸⁵ and 9.1

⁷¹ Sanders, op. cit.; Hirsch, op. cit.; Larsé, Jour. de Méd., T. lxxxviii, p. 240; Germain, Ann. d'Hyg., July, 1850, p. 130; Bianchi, Jour. de Méd., T. lxxvi, p. 171; Graullat, Hist. de la Soc. de Méd. de Paris, T. i, p. 192; Didelot, ibid., T. ii, p. 136; Meyer, Méd. Topog. Ober-Ehnhelm, Strassburg, 1841; Lépine, Pneumonie, 1853, p. 21; Bonafos, Obsv. de Méd., T. ii, p. 62; Lucadon, Mal. les plus familières à Rochefort, etc., Paris, 1878, p. 187; Grisollet, Traité de la Pneumonie, 1841; Laennec, Traité de l'Auscult. Médiate, Paris, 1819; et al.

⁷² Matagrin, Gaz. Méd. de Lyon, 1858, No. 14; Raymond, Hist. de la Soc. de Méd. de Paris, T. ii, p. 19; et al.

⁷³ Ziemssen, op. cit.; Juergensen, op. cit., S. 12; Roux, Hist. Méd. de l'Armée en Morée, p. 34; Trebuchet, Ann. d'Hyg., T. xlvii, p. 20.

⁷⁴ Gibbs, U. S. Naval Rpts., 1881, p. 410.

⁷⁵ Laveran, Ann. d'Hyg., 1866.

⁷⁶ Gilbert, Quoted by Lépine, op. cit., p. 21.

⁷⁷ Cabrol, Mém. de Méd. Mil., T. vi, p. 51.

⁷⁸ Boudin, Geog. Méd., p. 88; Guthrie, London, Phys. and Med. Jour., Vol. lxiv, p. 187; Martinez, Topog. Méd. Malaga, 1852; Gregory, London Med. Gaz., Vol. ii, p. 78; Wallace, Edinb. Med. and Surg. Jour., Vol. xxxi, p. 76; Thierry, Obsv. de Méd., Paris, 1791; Faure, Souvenirs du Midi, etc.; Tulloch, op. cit.; Hennen, Med. Topog. Mediterranean, p. 438; Dickson, U. S. Naval Rpts., 1879, p. 533.

⁷⁹ Penrose, U. S. Naval Reports, 1879, p. 578.

⁸⁰ Sturges, Nat. Hist. Pneumonia, London, 1876, p. 161.

⁸¹ LaRoche, Pneumonia, Phila., 1854, p. 62; Hirsch, op. cit., S. 23; Mammì, Filiatr. Sebez., Nov. 1842; Guislain, Lettre Méd. sur l'Italie, Gand., 1840; Menis, Topog. Statist. Méd. della Provincia di Brescia, Bresc., 1837; Cerioli, Omodei Ann. Univ., 1820, Jan. 11; Huldebrand, Ann. Schol. Clin. Ticin., Pap., 1826, Vol. i, p. 119; Savio, Sulla Topog. Med. del Sicomario, Pav., 1846; Valentini, Voyage Méd. en Italie, Nancy, 1822, p. 141; Sturges, op. cit., p. 161; Frank, Prax. Méd., Lib. ii, p. 318; Fox, op. cit.; Dickson, op. cit., p. 486; Carrière, Le Climat de l'Italie, Paris, 1849; Sanders, op. cit.; Mém. de l'Acad. de Méd., T. xiv, p. 230; Ann. d'Hyg., T. xxx, p. 58, T. xxxv, p. 5, T. xxxvi, p. 304.

⁸² Fox, op. cit., p. 154; Clark, On Climate, p. 121; Hirsch, op. cit., S. 23; Dickson, op. cit.; Tulloch, op. cit.; Vanucci, Bull. de l'Acad. de Méd., du 20 Mai, 1838; Morris, Voyage en Sardaigne, Paris, 1826; Cleghorn, Ep. Dis. in Minorica, London, 1762; Irvine, Obsv. Dis. Sicily, London, 1810.

⁸³ See Landerer, Arch. de Pharmacie, 1851; LaRocoe, op. cit., p. 63; Hippocrates—De Morh., Lib. ii—considered it common in his day.

⁸⁴ Cateloup, De la Pneumonie d'Afrique, Paris, 1853.

⁸⁵ Sanders, op. cit.; Ziemssen, op. cit.

per cent. of the deaths.⁷⁶ It is especially prevalent in Algiers,⁷⁷ Chamounix,⁷⁸ Constantine,⁷⁹ Arabia,⁸⁰ Capeland,⁸¹ South Africa,⁸² Senegambia,⁸³ West Coast⁸⁴ and other places, whilst it is less prevalent or rare in Egypt,⁸⁵ Abyssinia,⁸⁶ Bone,⁸⁷ Morea,⁸⁸ environs of Sahara,⁸⁹ the Eastern Coast,⁹⁰ Madeira,⁹¹ Mauritius,⁹² Azore Islands,⁹³ St. Helena,⁹⁴ St. Domingo,⁹⁵ Martinique,⁹⁶ etc.

Asia.—Pneumonic fever is not common in most parts of this continent. It is rare in Hindostan,⁹⁷ except in the northern districts,⁹⁸ Burnah,⁹⁹ Pegu,¹⁰⁰ Ceylon,¹⁰¹ the East India Islands,¹⁰² Australia,¹⁰³ etc., whilst it is common in China,¹⁰⁴ Corea,¹⁰⁵ Japan,¹⁰⁶ the South Pacific Islands,¹⁰⁷ Van Diemen's Land,¹⁰⁸ New Caledonia,¹⁰⁹ New Zea-

land,¹¹⁰ Gambier Island,¹²¹ Sandwich Islands,¹²² Riouw and Lingga Islands,¹²³ Nicobaren,¹²⁴ Ten-esserim,¹²⁵ Kamschatka,¹²⁶ Siberia,¹²⁷ Persia,¹²⁸ Turkey,¹²⁹ Syria,¹³⁰ Armenia,¹³¹ Donau,¹³² and other places.

North America.—Here pneumonic fever was common amongst the Aztecs of Mexico¹³³ and the Indian tribes roaming over the United States and Canada in past centuries,¹³⁴ and continues to prevail extensively in every part of the continent.

Arctic Basin.—Pneumonic fever has been rarely met with in Arctic expeditions¹³⁵ or in the hunting stations of the far north,¹³⁶ save in Greenland, where it is common.¹³⁷ In Alaska and the neighboring islands it does not often appear, but, when it does so, is very destructive.¹³⁸ It is very prevalent in Lower Canada,¹³⁹ the Maritime Provinces,¹⁴⁰ Maine,¹⁴¹ New Hampshire,¹⁴² Vermont,¹⁴³ Massachusetts,¹⁴⁴ Northern New York,¹⁴⁵ New York City,¹⁴⁶ Brooklyn,¹⁴⁷ Hartford,¹⁴⁸ Philadelphia,¹⁴⁹ Cleveland,¹⁵⁰ Pittsburgh,¹⁵¹ Petersburg,¹⁵² District of Columbia,¹⁵³ Cincinnati,¹⁵⁴ Indiana,¹⁵⁵

⁷⁶ Chamberlain, N. E. Med. Mon., 1883, p. 406.

⁷⁷ Laveran, op. cit., p. 28; Bertherand, Méd. et Hyg. des Arabes d'Algérie, Paris, 1855; Deleau, Rec. Mém. de Méd. Mil., T. iii, p. 115; Ziemssen, op. cit.; et al. Some authors have considered it uncommon. See Haspel, Mal. de l'Algérie, Paris, 1852; T. ii, p. 478; Finot, Rec. Mém. de Méd. Mil., T. lvi, p. 1; Cambay, Ibid., T. lvii, p. 1; Villette, Ibid., T. liii, p. 151; et al.

⁷⁸ Sturges, op. cit., p. 154.

⁷⁹ Boudin, Géog. Méd., p. 80.

⁸⁰ Prunner, Krankheiten des Orients; Erlangen, 1847.

⁸¹ Tulloch, Army Reports, 1840; Kretzschmar, Südafrikanischen Skizzen, Leipz., 1853; Schwarz, Zeitsch. d. Wien. Aerzte, 1858.

⁸² Livingstone, Deutsche Klinik, 1858, Nr. 42.

⁸³ Thévenot, Traité des Mal. des Européens dans les Pays Chauds, Paris, 1840; Raffelin, Voyage dans l'Afrique Occidentale, Paris, 1846; Berville, Mal. des Sénégal, Paris, 1857.

⁸⁴ Moreira, Jour. de Scienc. Méd. de Lisbon, xv, 121; Boyle, Med.-Chir. Acct. Western Coast of Africa, London, 1831, p. 396; Daniell, Med. Topog. Gulf of Guinea, London, 1849; Ritchie, Edinb. Med. and Surg. Jour., 1852, April and June.

⁸⁵ Richardson, Travels in Egypt, Vol. i, p. 392; Barclay, Edinb. Med. and Surg. Jour., Vol. lxxx, p. 656; Griessinger, Arch. f. Phys. Heilk., Bd. xii; Prunner, op. cit.; Hirsch, op. cit.

⁸⁶ Courbon, Topog. Méd. Suez, Paris, 1861, p. 31; Aubert-Roche, Ann. d'Hyg. T. xxiii, p. 21; Prunner, op. cit. It is here not so uncommon as in Egypt. See Hirsch, op. cit.

⁸⁷ Maillot, Int. Fiev., p. 114.

⁸⁸ Roux, Hist. Méd. l'Armée en Morea.

⁸⁹ Hirsch, op. cit., S. 24.

⁹⁰ Sturges, op. cit., p. 154.

⁹¹ Hoehling, U. S. Naval Reports, 1886, p. 12; Kampter, Hamburger Zeitschr. f. Med., Bd. xxiv, S. 156; Gourlay, Nat. Hist. Madeira, London, 1811; Mittermaier, Maderia u. seine Bedeutung als Heilungsort, Heidelberg, 1855.

⁹² Lesson, Voyages, etc., p. 143; Couzier, Jour. de Méd., T. vii, p. 406; Allan, Edinb. Med. Jour., 1841, p. 560; Dutrouleau, Mal. des Européens les Pays Chauds, Paris, 1861, p. 51.

⁹³ Hirsch, op. cit., S. 5.

⁹⁴ Tulloch, Army Reports, 1840; Hirsch, op. cit., S. 24.

⁹⁵ Desparthes, Mal. de St. Domingo, T. i, p. 32.

⁹⁶ Grisolle, Traité de la Pneumonie, Paris, 1841, p. 132.

⁹⁷ Hunter, London Med. Gaz., 1847, Vol. i, p. 8, and 1850, Vol. ii, pp. 367-578; Fox, op. cit.; Moorehead, Dis. India, Vol. ii, p. 308; Twining, Dis. Bengal, Calcutta, 1855, Vol. i; Sturges, op. cit., p. 154; LaRoche, op. cit., p. 63; Sanders, op. cit., p. 82; Gordon, Lon. Med. Times and Gazette, 1856, Vol. ii, p. 188; Henderson, Madras Quart. Med. Jour., Vol. iii, p. 328; Voigt, Bibl. f. Läger, 1833, Hft. iii, S. 36; Kiunns, Edinb. Med. and Surg. Jour., Vol. lxxvi, p. 256; Evans, Ibid., July, 1855; Webb, Path. India, London, 1848, p. 100; Don, Bombay Med. Trans., Vol. iii, p. 10.

⁹⁸ Eyre, Madras Jour. Med. Sci., Oct., 1860, p. 332; Dunbar, Ind. Jour. Med. and Phys. Sci., Vol. i, p. 443; Hunter, Bombay, Med. Trans., Vol. ii, p. 32; Young, Calcutta Med. Trans., Vol. iv, p. 36; Webb, Path. Ind., London, 1848, p. 100; Marston, Trans. Int. Med. Congress, Wash., 1887, see N. Y. Med. Record, Sept. 10, 1887, p. 320.

⁹⁹ Murchison, Edinb. Med. and Surg. Jour., Vol. lxxxi, p. 248; Dawson, Philadelphia, Med. Examiner, 1853, May.

¹⁰⁰ Stewart, Indian Annals Med. Sci., April, 1854, p. 432.

¹⁰¹ Grisolle, op. cit., p. 130; Davy, Interior of Ceylon, p. 493; Marshall, Med. Topog. Ceylon, London, 1822, p. 39.

¹⁰² Heymann, Krankh. d. Tropenländer, Würzb., 1855, S. 158; Lesson, Voyage Méd., etc., Paris, 1829, p. 97; Hattem, Nederl. Tijdschr. voor Geneesk., ii, 538; Sanders, op. cit., p. 82; Hirsch, op. cit.; Shaw, U. S. Naval Reports, 1879, p. 138; LaRoche, op. cit., p. 63; Sanders, op. cit. It is considered very prevalent here by some authors. See Hirsch, op. cit., S. 24; Lesson, op. cit., p. 112; Clutterbuck, Port Phillip in 1849, London, 1850.

¹⁰³ Turner, U. S. Naval Reports, 1879, p. 292; Remy, Arch. Gen. de Méd., March, 1883; Hirsch, op. cit., S. 24; Woods, U. S. Naval Reports, 1886, pp. 54-65; Wilson, Med. Notes on China, Lond., 1846, p. 50; Hobson, London Med. Times and Gaz., Nov., 1860, p. 478, and December, p. 632; Armand, Gaz. Méd. de Paris, 1861, p. 201.

¹⁰⁴ Turner, op. cit., p. 292.

¹⁰⁵ Woods, op. cit., pp. 54-65.

¹⁰⁶ Wilkes, U. S. Explor. Expedition, Vol. iii, p. 32.

¹⁰⁸ Dempster, Calcutta Med. Trans., Vol. vii, p. 357; Hirsch, op. cit., S. 24.

¹⁰⁹ Vinson, Topog. Méd. Nouv. Calédonie, Paris, 1858.

¹¹⁰ Thompson, Brit. and For. Med.-Chir. Rev., Oct., 1854.

¹¹¹ Lesson, Voyage aux Isles Mangareva, Rochefort, 1845.

¹¹² Chamberlain, op. cit.; Chapin, Am. Jour. Med. Sci., May, 1837; Haldé, Notes on Sandwich Islands, London, 1854; Gulick, N. Y. Jour. Med., March, 1855; Hirsch, op. cit., S. 24.

¹¹³ Meijer, Nederl. Tijdschr. voor Geneesk., iii, 327.

¹¹⁴ Steen-Bills Reise d. Corvette Galatea um die Welt, Leipzig, 1852, Bd. i, S. 244.

¹¹⁵ Ward and Grant, Med. Topog. Malacca, 1830.

¹¹⁶ Bogonodsky, Med. Zeit. Russl., 1854, S. i; Hirsch, op. cit., p. 25.

¹¹⁷ Gebler, Ann. d. Heilk., 1813, S. 330; Kex, Med. Zeit. Russl., 1859.

¹¹⁸ Polack, Wiener Med. Wochenschr., 1854, Nr. 48, 1855, Nr. 17.

¹¹⁹ Rigler, Die Türkei u. deren Bewohner, Wien, 1852, Bd. ii, S. 220; Beyran, Gaz. Méd. de Paris, 1854, p. 343.

¹²⁰ Prunner, Krankh. d. Orients, Erlangen, 1847, S. 253; Robertson, Edinb. Med. and Surg. Jour., Vol. lix, p. 247; Tobler, Topog. Jerusalem, Breslau, 1855, S. 30.

¹²¹ Wagner, Reise nach dem Arrarat, Stutt., 1848.

¹²² Schmalz, Deutsche Klinik, 1852, Nr. 39.

¹²³ Bancroft, Pacific States, Vol. ii, p. 592.

¹²⁴ Rush, Hist. Med. among the Indians, London, 1789, p. 20.

¹²⁵ Parry's Second Voyage; Beck's Narrative; Ross, Trans. Royal Soc., 1836, part i, p. 52; Fox, Reynold's Syst. Med., Phila., 1880, Vol. ii, p. 154; Sturges, Nat. Hist. Pneumonia, London, 1876, p. 154; Rosse, Cruise of the Corwin, Wash., 1883; Hirsch, op. cit.

¹²⁶ Andrew, London Lancet, 1884, Vol. i, p. 695. Of 162 deaths at Moose, in 71 years, not one was from pneumonic fever.

¹²⁷ Cranz, Hist. von Grönland, Barb., 1770; Hirsch, op. cit., S. 25.

¹²⁸ Wythe, Pacific Med. and Surg. Jour., 1871; Rosse, op. cit., pp. 18-23; Personal Com. from Gen. Scribner. Brooke, speaking of the execrable climate, says that "it might naturally be supposed that in such a climate . . . acute pulmonary inflammations would be very common; but such is not the case." Quoted by Rosse, op. cit., p. 17.

¹²⁹ McCord, Am. Jour. Sci., Vol. iii; Report Health Officer Montreal, 1887; Tulloch, op. cit.; Drake, Dis. Int. Valley, Vol. i.

¹³⁰ Tulloch, op. cit., 1853.

¹³¹ Report State Board Health, 1885; Witherspoon, in Coolidge's Statistical Rpt. U. S. Army, Washington, 1856, pp. 27-29.

¹³² Registration Report, 1885.

¹³³ U. S. Census Reports, 1880; Gallup, Epidemics of Vt., Boston, 1815.

¹³⁴ Registration Report, 1881; Cleburn, U. S. Naval Rpts., 1879.

¹³⁵ Coolidge, Statistical Reports, Washington, 1856; Flint, Am. Jour. Med. Sci., Jan., 1861; U. S. Census Rpts., 1880; Rpts. State Bd. Health, 1878, 79, 85; Lee, Copland's Med. Dic., N. Y., 1855, Vol. ii, p. 891.

¹³⁶ Dunnell, Am. Jour. Med. Sci., May, 1838; Reports of Board of Health.

¹³⁷ Board of Health Report, 1878.

¹³⁸ Board of Health Report, 1887; Report State Bd. Health of Connecticut, 1885.

¹³⁹ Registration Report for 1876.

¹⁴⁰ Report Board of Health, 1878-87.

¹⁴¹ Reports Board of Health, 1880-1-2-3-4-5-6-7.

¹⁴² Report Board of Health, 1879.

¹⁴³ Reports Board of Health, 1878-80-82.

¹⁴⁴ Report Board of Health, 1886; Drake, op. cit.

¹⁴⁵ Rpts. Bd. Health, 1884-85-86; U. S. Census Report, 1880.

Missouri,¹⁵⁶ St. Louis,¹⁵⁷ Memphis,¹⁵⁸ Arkansas,¹⁵⁹ Kansas,¹⁶⁰ Louisiana,¹⁶¹ Texas,¹⁶² New Orleans,¹⁶³ Mississippi,¹⁶⁴ Savannah,¹⁶⁵ Selma,¹⁶⁶ Knoxville,¹⁶⁷ Tennessee,¹⁶⁸ Alabama,¹⁶⁹ Charleston,¹⁷⁰ Columbia,¹⁷¹ Richmond,¹⁷² Illinois,¹⁷³ New Mexico,¹⁷⁴ Colorado,¹⁷⁵ Denver,¹⁷⁶ Utah,¹⁷⁷ Nevada,¹⁷⁸ San Francisco,¹⁷⁹ etc.,¹⁸⁰ whilst it is less common in Boston,¹⁸¹ New Haven,¹⁸² Connecticut,¹⁸³ New Jersey,¹⁸⁴ Maryland,¹⁸⁵ Baltimore,¹⁸⁶ Virginia,¹⁸⁷ Georgia,¹⁸⁸ South Carolina,¹⁸⁹ North Carolina,¹⁹⁰ Delaware,¹⁹¹ Pennsylvania,¹⁹² Rhode Island,¹⁹³ Providence,¹⁹⁴ Southern New York,¹⁹⁵ Rochester,¹⁹⁶ Kentucky,¹⁹⁷ Ohio,¹⁹⁸ Chicago,¹⁹⁹ Milwaukee,²⁰⁰ Wisconsin,²⁰¹ Michigan,²⁰² Minnesota,²⁰³ St. Paul,²⁰⁴ Nebraska,²⁰⁵ Dakota,²⁰⁶ Montana,²⁰⁷ Wyoming,²⁰⁸ Iowa,²⁰⁹ Idaho,²¹⁰ Washington,²¹¹ Oregon,²¹² California,²¹³ Arizona,²¹⁴ West Virginia,²¹⁵ San Antonio,²¹⁶ Florida,²¹⁷ Ontario,²¹⁸ and other places.

- ¹⁵⁶ U. S. Census Report, 1880.
¹⁵⁷ Report Board Health, 1884-85-86.
¹⁵⁸ Grant, Am. Jour. Med. Sci., July, 1853, p. 94.
¹⁵⁹ U. S. Census Report, 1880; Sanders, op. cit., p. 52.
¹⁶⁰ U. S. Census Report, 1880.
¹⁶¹ Stark, Edinb. Med. and Surg. Jour.; U. S. Census Rpt., 1880.
¹⁶² U. S. Census Report, 1880; Swift, in Coolidge's Rpts., p. 378; Crawford, Coolidge's Rpts., p. 386.
¹⁶³ Stark, op. cit., Vol. lxxv, p. 130; U. S. Census Rpts., 1880.
¹⁶⁴ U. S. Census Reports, 1880; Sanders, op. cit.
¹⁶⁵ Report Vital Statistics.
¹⁶⁶ Report Board Health, 1876.
¹⁶⁷ Report Board Health, 1878.
¹⁶⁸ U. S. Census Reports, 1880.
¹⁶⁹ Henstis, Am. Jour. Med. Sci., May, 1851, p. 94.
¹⁷⁰ U. S. Census Report, 1880; Reports Board Health.
¹⁷¹ Gibbs, Am. Jour. Med. Sci., Oct., 1842.
¹⁷² Board Health Reports.
¹⁷³ U. S. Census Reports, 1880; State Board Health Reports.
¹⁷⁴ Coolidge, Statist. Reports; U. S. Census Reports, 1880.
¹⁷⁵ U. S. Census Reports, 1880.
¹⁷⁶ Chamberlain, N. E. Med. Mon., 1883; U. S. Census Rpts., 1880.
¹⁷⁷ Bartholow, Am. Jour. Med. Sci., April, 1860, p. 323; U. S. Census Reports, 1880.
¹⁷⁸ U. S. Census Reports, 1880.
¹⁷⁹ Report Board Health, 1878-81.
¹⁸⁰ It is very common among the Indians of Indian Territory. Coolidge, Reports, p. 260.
¹⁸¹ Board Health Reports.
¹⁸² Board Health Reports.
¹⁸³ Reg. Report, 1886; U. S. Census Reports, 1880.
¹⁸⁴ Boyson, Trans. Int. Med. Cong., 1887; U. S. Census, 1880.
¹⁸⁵ U. S. Census Reports, 1880; U. S. Naval Reports, 1879, p. 853.
¹⁸⁶ Niles and Russ, Med. Statist., N. Y., 1847; Joyner, Am. Jour. Med. Sci., Oct., 1850, p. 297; Board Health Reports, 1878-86.
¹⁸⁷ U. S. Census Reports, 1880.
¹⁸⁸ Posey, Trans. Am. Med. Ass'n, Vol. x.
¹⁸⁹ U. S. Census Reports, 1880.
¹⁹⁰ Tidyman, Phila. Jour. Med. and Phys. Sci., August, 1826.
¹⁹¹ U. S. Census Reports, 1880.
¹⁹² Callaghan, Am. Jour. Med. Sci., Nov., 1828, p. 36.
¹⁹³ Registration Reports; U. S. Census Reports, 1880.
¹⁹⁴ Snow, Reports Health Officer, 1877-78-79-80.
¹⁹⁵ U. S. Census Reports, 1880.
¹⁹⁶ Reports Board Health.
¹⁹⁷ U. S. Census Reports, 1880.
¹⁹⁸ Hildreth, Am. Jour. Med. Sci., Feb., 1830, p. 321.
¹⁹⁹ Reports Board Health, 1878-80-86.
²⁰⁰ Report Board Health, 1878.
²⁰¹ U. S. Census Reports, 1880.
²⁰² U. S. Census Reports, 1880.
²⁰³ Reports State Board Health, 1879; U. S. Census Rpts., 1880.
²⁰⁴ Board Health Reports, 1880-7.
²⁰⁵ Sanders, op. cit.; U. S. Census Reports, 1880.
²⁰⁶ Stuver, Phila. Med. News, April 29, 1882, p. 455.
²⁰⁷ U. S. Census Reports, 1880.
²⁰⁸ U. S. Census Reports, 1880.
²⁰⁹ Bradford, Notes on the Northwest, N. Y., 1846.
²¹⁰ U. S. Census Reports, 1880.
²¹¹ Hayden, Coolidge's Reports, p. 478; U. S. Census Rpts., 1880.
²¹² U. S. Census Reports, 1880.
²¹³ Blake, Am. Jour. Med. Sci., July, 1852, p. 53; Griffin, Coolidge's Reports, p. 478; Stillman, Edinb. Med. and Surg. Jour., Vol. lxxviii, p. 275; Feun, Jour. Am. Med. Ass'n, April 17, 1886, p. 425; Tyrell, Report State Board Health, 1881-86, p. 60, 128, 192; Prashlow, Der Staat Californien, Göttingen, 1857.
²¹⁴ U. S. Census Reports, 1880.
²¹⁵ U. S. Census Reports, 1880.
²¹⁶ Report Board Health, 1887.
²¹⁷ U. S. Census Report, 1880.
²¹⁸ Registration Reports, 1883-84-85.

The high plateaus of Mexico afford a large amount of pneumonic fever,²¹⁹ and even the Gulf coast is considerably afflicted.²²⁰ It is rare on the west coast.

Pneumonic fever is comparatively rare in Central America,²²¹ Bermuda,²²² Jamaica,²²³ Cuba,²²⁴ the Antilles,²²⁵ St. Domingo,²²⁶ Trinidad,²²⁷ and the other West Indian Islands.²²⁸

South America.—On this continent pneumonic fever is responsible for an annual death-rate of 1.61 per 1,000 of population, and 5.8 per cent. of all deaths.²²⁹ It is rare in Panama,²³⁰ the Marañon Valley,²³¹ and a few other places, but it is common in Ecuador,²³² Guiana,²³³ Brazil,²³⁴ Peru,²³⁵ Buenos Ayres,²³⁶ Chili²³⁷ and other parts.²³⁸

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

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[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

September 29, 1888.

EXCISION OF KNEE-JOINT.

Patient, æt. 47, male, and by occupation a coal miner, has always enjoyed good health and is at present in robust condition. His parents were healthy; his father died at the age of 56 years,

- ²¹⁹ Fox, op. cit., p. 154; Newton, Med. Topog. City of Mexico, N. Y., 1848; Müller, Deutsche Klinik, 1857; Hammond, in Coolidge's Reports, p. 419; Mexicanische Zustände, Stuttgart, 1837, Bd. i, S. 21; Naphegyi, N. Y. Jour. Med., May, 1855.
²²⁰ Culbreth, U. S. Naval Reports, 1879, p. 179.
²²¹ Sanders, op. cit., p. 82; Inel, Am. Jour. Med. Sci., Jan., 1859, p. 131; Wagner u. Scherzer, Die Republik Costa Rica, Leipzig, 1856; Bernhard, Deutsche Klinik, 1854, Nr. 8.
²²² Talloch, op. cit.; Fox, op. cit., p. 154.
²²³ Hunter, Bemerk. ii. des Krankh. d. Truppen auf Jamaica, Leipzig, 1792, S. 222; Talloch, op. cit.
²²⁴ Sanders, op. cit., p. 82; Hirsch, op. cit., S. 25; Morlet, Voyage dans l'Amerique Centrale, Paris, 1857, T. ii, p. 660.
²²⁵ Talloch, op. cit., 1838; Hunter, op. cit.; Ruiz, Mém. de l'Acad. de Méd., T. x; Drouillon, Traité, etc., Paris, 1861, p. 35; Despartes, Mal. de St. Dominique, Paris, 1770, T. i, p. 32.
²²⁶ Despartes, op. cit., T. i, p. 134.
²²⁷ McCabe, Edinb. Med. and Surg. Jour., Vol. xiv, p. 593.
²²⁸ Chisolm, Climate and Diseases of Tropical Countries, London, 1822, p. 104.
²²⁹ Sanders, op. cit.
²³⁰ Clark, U. S. Naval Reports, 1886, p. 22.
²³¹ Galt, Am. Jour. Med. Sci., January, 1873, p. 116.
²³² Hirsch, op. cit., p. 7.
²³³ Schöller, Obsv. super Morb. Surinam, Götting., 1781; Schwarz, Zeitschr. Wiener Aenzt., 1858, S. 578; Laure, Mal. de la Guayne, Paris, 1859, p. 46; Segond, Rev. Méd., Nov., 1836; Bajon, Geschichte von Cayenne, Erf., 1780, Bd. ii, S. 60; Campet, op. cit., p. 210.
²³⁴ Rendu, Topog. Méd. Brésil, Paris, 1848, p. 67; Schwarz, op. cit., S. 578; Sigand, Climat et des Mal. Brésil, Paris, 1844, p. 112.
²³⁵ Smith, Edinb. Med. and Surg. Jour., Vol. lvii, p. 359; Tschndi, Oestr. Med. Wochenschr., 1846, p. 660.
²³⁶ Brunel, Obsv. Topog., etc., dans le Rev. de la Plata, Paris, 1842, p. 36.
²³⁷ Müller, Deutsche Klinik, 1856, Nr. 24; Lafarque, Bull. de l'Acad. de Méd., T. xvii, p. 189.
²³⁸ Stephenson, U. S. Naval Reports, 1881, p. 269.

and his mother is still living. Three years ago, while at his work in the mines at Mansfield, a fall of coal caught his knee, crushing it slightly, but not severely, as he kept on at his work for a month, at which time, however, his knee began to trouble him so much he was compelled to take to his bed, which he kept for three days, when he again resumed work, but only for a short time, when he was again compelled to go to bed for a few days; and so he has alternately worked and lain in bed for the past three years, until within a short time, when he became unable to work or even to stand on his leg. Upon examination I find that the mischief has so involved the joint that the articulating surfaces, cartilages, ligaments and the joint generally, has become so thoroughly disorganized as to require a surgical operation. There are two operations we may do for this man, namely: amputation of the limb or excision of the joint. The latter is a substitute for the former, and is resorted to in disease, injury and deformity of joints; and where it is applicable the mortality following it should govern us largely in attempting it. A few years ago good surgeons had almost abandoned it, so great had been the mortality following it.

Of 57 cases recorded during the late war, 44 died, 10 recovered, and 3 are unaccounted for; but since the advent of antiseptic treatment of wounds results have changed materially. I have done five excisions in the past three years, with but one death, that of a delicate child, while my friend Prof. King has done five excisions in the same length of time with no deaths. The object in view in excision of the knee-joint is different from that in the elbow, shoulder, wrist, hip, ankle or almost any other joint. In almost every other joint, we hope to get motion after excision, in the knee we do not; in fact, we make every effort to get a stiff joint, we endeavor to destroy the joint as a joint, and to that end we fix the bones solidly together with nails, destroy the synovial pouch and membranes, and hope thereby to get strength at the expense of motion.

In doing this operation we will make an incision extending from opposite the external condyle of the femur, across the centre of the patella to opposite the internal condyle of the femur, about three-fourths of the circumference of the limb, and carry the incision deeply through all the tissues down to the ligaments; we then dissect up the skin, flex the limb and remove the patella, and all the diseased tissue surrounding the joint. After this we saw a thin piece off the end of the femur and a thin piece off the end of the tibia, taking care not to remove the entire epiphysis in any case. As the normal leg is not straight, it shall be our endeavor to remove the ends of the tibia and femur in such a line to the axis of the leg, that when the two sawed surfaces are brought into position the natural bend of the leg shall be maintained. After the nails are put in

place and the drill removed, a tap or two on the head of each nail with the mallet serves to fasten them up and to draw the two surfaces into closer apposition. In addition to the nails a posterior splint will be put on, also a plaster dressing will be put on over the whole; all of which will help hold the joint immovable. Several drainage tubes having been put in, small fenestra will be cut in the plaster dressing in order that the tubes may be removed without disturbing the limb, which will be done in about one week. The dressing will not be removed for about two weeks unless pain or rise in temperature indicate that all is not doing well. The nails will be withdrawn in about three weeks, and if all goes well this man should be able to move about on crutches in about four weeks.

October 27, 1888.

We will show you first, to-day, the man on whom we excised the knee-joint just four weeks ago. You see that he is able to walk about on crutches, and you will also notice that he looks much better, physically, than he did on the day of the operation. One week ago I removed the nails, and failed to find one drop of pus in the wound, or in the track of the nails. You also see when I manipulate the limb, that the joint is firmly ankylosed, showing that complete bony union has taken place. Now, that is just the result we sought to obtain, and it is the result we have a right to expect if our operation has been properly done, and our antiseptic precautions have been properly observed. This man has been thoroughly incapacitated for work for four years, and now he has the pleasure of knowing that he will soon be able to resume his occupation, with a considerable degree of satisfaction. He is 47 years old, an age at which we should scarcely expect as favorable results as we have been able to obtain in this case. On the evening of the day of the operation, his temperature went up to 101.6° , but since that time has remained below that, much of the time being normal.

October 13, 1888.

FRACTURE OF THE SKULL.

Through the courtesy of Dr. Hyatt we are enabled to show you the case of a young man, who one week ago sustained a severe fracture of the skull. This man is 25 years old, and works in a machine shop. One week ago, while at his work, he was struck by a falling beam, receiving, as you see, this extensive stellate fracture of the skull, just over the left parietal bone. And extensive as this wound is, and considering the fact that pieces of bone were driven down into the substance of the brain, this man walked down three flights of stairs, rode to the hospital in an ambulance, and got out and walked into the ward without for a moment losing consciousness.

This fact will serve to teach you that men may receive very extensive fractures of the skull, and still retain consciousness. After this accident, Dr. Hyatt trephined the skull, removing the detached portions of bone, and elevating the depressed portions, observing through all his manipulations strict antiseptic precautions; and to-day his chart shows a temperature of 99.6° , and at no time did it exceed 99.8° . Now, this would be almost an impossible state of affairs under any other than antiseptic treatment. Under the old forms of treatment of injuries like this, we would, in all probability, by this time have this patient in an aggravated form of septic fever.

We will now remove the dressings in order to get at the drainage tube, which has now served its purpose and will be removed. This will be done as strictly antiseptically as the original operation. The skull is an exceedingly difficult location on which to do antiseptic surgery, on account of the hair, which gets very filthy. When you want to do a clean operation on the skull always shave the hair off close to the skin. Heretofore not a little trouble has been experienced in elevating the internal table of the skull, on account of its friability and proneness to break down under instruments, but my friend Prof. Brazier, of Wooster University, has invented an instrument which overcomes this difficulty. He has promised to send me one of them, which, when he does so, will be exhibited to you. The opening left here by the trephine will not be closed by a silver or glass plate, as so many people think, but will be left to nature to close, and which she will close; not by bone, but by a thick, fibrous membrane, leaving a soft spot, which will always remain over the site of the wound. In a case of this kind, not much can be done by medication. I, however, always give a cathartic, a brisk, hydragogue cathartic, which partly takes the place of the old style of bleeding. This young man has had this.

FRACTURE OF THE PATELLA.

We have here another patient, one who has a fracture of the patella. A few days ago, while trying to board a moving train, he was thrown violently against an upright signal pole, and has sustained a transverse fracture of the patella, which is a rare occurrence. Fractures of the patella may be caused by direct violence, and by muscular action, and when it is caused by direct violence, it is almost always in an oblique, vertical or stellate fracture. When it is fractured in a transverse direction, it is almost always done by muscular action, as when a person is about to fall, or be thrown down, in his violent effort to prevent his falling, and when his knee is in a semiflexed position, his patella is fractured in a transverse direction, by the violent contractions of the strong muscles of his thigh opposed by the ligamentum patella below, much the same as you would break

a stick by pulling it over your knee with a hand on either end. But in this case you see a transverse fracture caused by direct violence. This is merely an exception to the rule. This is also a complete fracture, the parts being separated from $1\frac{1}{2}$ to 2 inches, and as you see, the limb is very much swollen or puffed up by the accumulation of fluid in the joint. Now, it is very desirable that this fluid should be disposed of before we try to bring the parts together, and in order to do this, some surgeons recommend the aspirator. In this case, however, we will try milder means. First we will place a bladder filled with broken ice about the joint, and follow this with a couple of large blisters, and if this do not effect the desired result, the aspirator will then be used. Now, there are two ways of bringing the fractured ends of the patella together: first by plasters, one strip being passed around below the lower part, and strongly drawn upward and made to adhere to the skin of the thigh above the knee; another strip is passed around the upper fragment and strongly drawn down, and made to adhere below the knee. The limb must lay on its posterior aspect, and perfectly relaxed, and then, by manipulations and flexing the thigh upon the pelvis and extending the leg, the fractured ends may be brought very nearly into approximation; always remembering, however, that the upper part must be drawn down, and that the lower part cannot be drawn up, as the ligamentum patella is not elastic. The other way of reducing this fracture is to cut down on to the bone, freshen the two fractured surfaces, pass strong wires through each, draw them together, twist the wires, and so retain them in apposition until union takes place. This latter process is attended by so much danger that it is not often resorted to. Patients have lost their lives as a result of it, and many have suffered amputation. In either of these operations we can hardly hope for bony union; some surgeons claim to get bony union in favorable cases, but it has been claimed by just as good authority that bony union never takes place in these cases. The fibrous union which we do get, however, is as good for all practical purposes as bony union would be, while some claim that it is better than bony union would be, if we did get it, as the patella will never break again at the same place after fibrous union has taken place.

THE ROYAL COLLEGE OF SURGEONS AND ITS MEMBERS.—At a meeting of the Birmingham and Midland Counties Branch of the British Medical Association, the following resolution was, after an animated discussion, adopted: "That this Branch sympathizes with the desire of the Royal College of Surgeons of England to take part in the management of affairs of the College."

MEDICAL PROGRESS.

REGARDING THE RESEMBLANCE OF THE MALARIA-PARASITE TO THOSE OF FEBRIS RECURRENS.—N. A. SACHAROFF, in a preliminary communication in *Watsch.*, 1889, No. 1 (Russian), states that there exists in the blood of patients suffering from febris recurrens a hæmatazon which may be best observed immediately after the temperature begins to fall, and which then assumes enormous proportions (20 and more diameters of a red blood-corpusele). But specimens of lesser size are also found. The parasite consists of a delicate amœboid body containing a multitude of dark, round, uniform, sharply-outlined movable granules. Besides these the protoplasma contains a generally grayish, homogeneous nucleus as large as one or two red blood-corpuseles. The protoplasma sends forth pseudopodia (without granules) which sometimes separate from it and appear as small, delicate pieces of protoplasma without granules. They vary in size and are often swallowed by red blood-corpuseles in which they gradually grow and finally develop into the above-mentioned large amœboid body.

In a detailed description contained in the Minutes of the Session of the Caucas. Med. Society, in Tiflis, 1888, No. 11, Sacharoff designates the large protoplasma-lumps described by Ponfik, Ref. L. Heydenreich (Wilna), as his parasite: Hæmatazon Febridis recurrens. He declares that the granules in the protoplasma which Ponfik took for granules of fat are mostly pigment, not fat. From time to time the protoplasma itself sends forth pseudopodia, in which no granules are to be found; these pseudopodia fall off and circulate freely in the blood. By separating from the protoplasma, however, the parasites become smaller, until finally only the nucleus and a narrow zone of protoplasma containing granules remains. The nucleus itself is round, delicate, grayish, also reddish, and Sacharoff thinks that it is merely a red blood-corpusele. The nucleus sends forth pseudopodia, or buds, which separate from it and also circulate freely. Sacharoff watched such separated pseudopodia and noticed successive changes in them, *i. e.*, he saw spirochætæ-shaped threads form from nucleus-pieces within from 8 to 10 hours. They did not show any small undulations and were not very thin, but large undulations were distinctly visible. He thinks this is possibly the genesis of spirochætæ. Nor do the lumps separating from the protoplasma remain without further development. They have a motion of their own, attach themselves to red blood-corpuseles, send buds into them and finally are completely enveloped by them. Here they may assume various shapes and may grow larger and gain granules of pigment in the protoplasma.

They distend also the blood-corpusele containing them, and seem to be able to cause its disappearance. On the other hand they can emigrate with equal facility from the blood corpusele. Then the parasite becomes free and continues to grow, or decomposes as was shown above. Immediately after the crisis the three first-named forms exist in large numbers, further on during apyrexia principally or exclusively the intracellular forms are to be found. This is the main difference between it and the plasmodium malarial where the intracellular forms are found only during the fever.

This report is very important and it opens new points in the etiology of this disease. If the highly interesting discoveries of Sacharoff should be confirmed, we should have reliable means for the diagnosis of the disease during apyrexia as the intracellular forms, which can be stained with methyl blue (at least in intermittents), are easily seen. In uncolored specimens they are hard to see. The same peculiarity might then be utilized as a means of differential diagnosis from intermittents, with which febris recurrens is easily confounded.—*Centralblatt für Bakteriologie und Parasitenkunde*, Band v, No. 12.

SEMMOLA ON THE CURABILITY OF INTERSTITIAL HEPATITIS.—In a lecture on therapeutics at the University of Naples (*Il Progresso Medico*, January 15, 1889) PROFESSOR SEMMOLA exclaims strongly against the exaggerated importance which is attached to the anatomical basis of disease. He points out that the common error of associating the morbid anatomy found post-mortem in the last, and probably incurable, stage of disease with the symptoms of an earlier, and possibly curable, stage, as met with at the bedside, discourages therapeutic efforts, and leads directly to pessimist views.

So, in speaking of the curability of interstitial hepatitis, he does not refer to the atrophic stage, which is the one most commonly met with in the post-mortem room, and which is, as it were, the dregs of the disease; but to an earlier condition, when the liver is large, and the new tissue has not yet become hard, contracted, and fibrous.

Professor Semmola suggested the possibility of the curability of interstitial hepatitis in a lecture so far back as 1869. And at the International Medical Congress at Amsterdam in 1879, he details a series of cases in support of that view. More recently Dr. Millard has advocated the same proposition in *Le Progrès Médical*, and has published a series of cases in which he considers that interstitial hepatitis has been cured. Professor Semmola in his present lecture relates several further cases, but he appears to make no distinction between those of malarial origin and those due to syphilis or alcohol. It is quite possible that the former may be more readily curable than either of the latter.

It would also appear that sufficient account is not given to the establishment of a collateral circulation in the very numerous ways in which it is known to occur, and to the consequent disappearance of ascites and other symptoms, the interstitial hepatitis remaining unaltered. The reporter well remembers a middle-aged man who was tapped two or three times for very copious ascites, and whose liver was so hard and irregular that several of those who saw him thought he had malignant disease, but who lost his ascites completely and recovered sufficiently to resume his work as a railway navvy. It was difficult to attribute the result to anything but the establishment of a collateral circulation.

The principle of Professor Semmola's treatment is the rigid restriction to a milk diet. He argues that a more solid dietary, and especially meat, increases the hepatic irritation, and exaggerates the disease.—*London Medical Recorder*, March 20, 1889.

ON THE ORIGIN OF HOMOGENEOUS CASTS AND CYLINDROIDS IN THE URINE.—TORÖK and POLLACK have sought to discover the origin of homogeneous casts by clinical and pathologico-anatomical observations, as well as by histological and chemical investigations, and experiments on animals. By the results thus obtained, they join the partisans of the transudation theory, according to which homogeneous casts originate from the coagulation of an albuminous substance transuded into the renal channels directly from the blood. They consider their formation from cells or from derivatives of cells as out of the question. As chief supports for their views they cite the shape of the casts and cylindroids, and the observations which prove that these formations occur in simple disturbances of circulation, when renal epithelium is wholly normal or but slightly changed. Besides, they are formed so quickly in the kidney and in the urine that a homogeneous metamorphosis of the epithelium, or the formation and blending of vacuoli, would be impossible. The origin of cylindroids is twofold: one portion originates from the kidneys, another forms extrarenally from the secretions of the prostate, of Cowper's and Littre's glands, of the mucous glands of the bladder, of the uterus and the cervix, and differ from renal cylindroids, which they resemble morphologically, only in their insolubility in acetic acid. Against the formation of cylindroids from cells or vacuoli speaks also the circumstance that they are found alongside of almost normal epithelium and never show cross-stripes (the boundary-lines of the cells and vacuoli not yet blended). Furthermore, cylindroids occur frequently in urine, whilst vacuoli are very rare in fresh urine and in the urinary channels. Casts and cylindroids form where the quantity of the transudation is sufficient to fill completely the lumen of the urinary

channels and where it is of sufficient rigidity. Experiments especially seemed to prove the opposite. The authors regard the vacuoli, which most people think secretion products from the kidney epithelium, as cells which degenerated and subsequently swelled by absorbing liquid.

The homogeneous cast-substance plays an important part also in the formation of cell and granular casts. Concerning the question how this substance transudes, the authors believe that transudation goes on not only in the glomeruli, but also in the urinary channels. They are unable to say whether the kidney epithelium takes part in the formation of homogeneous casts or not. They likewise refrain from expressing an opinion on the factors causing coagulation, and merely mention the hypotheses advanced on this point.—*Centralblatt für Klinische Medizin*, 1889, No. 12.

THE LEUCOMAINES IN THE NORMAL BLOOD.—Under this title MR. R. WURG explains the results of careful investigations made at the instigation of Mr. A. Gantier, which have had a bearing on the question of alkaloids in the normal blood. The experiments which were made on 100 litres of ox-blood have led to the following conclusions: Normal ox-blood contains, besides the well-known bases isolated long ago, creatine, xanthine, hypoxanthine, a certain number of leucomaines, fixed or volatile, in a proportion not exceeding 3 gms. in 100 litres. The greater part of these bases were isolated in quantities too small to allow of an analysis. The form of their salts and their physiological properties are characteristic for each. Only two have been analyzed: one of them, which is volatile, is methylamine; the other, for which the name of "plasmaïne" has been proposed, is fixed; its formula is $C_5H_{13}Az_3$. The physiological action of this base is but slight, like that of most muscle leucomaines and of adenine, despite its being isomeric with hydrocyanic acid. The other bases likewise have no or but slight toxic qualities. The most poisonous among them kills a frog of average weight (15 gr.) in a dose of 2 to 3 milligrams, in about one hour. The symptoms generally observed were a slowing of the heart and of the respiration, and an increase in the sensitiveness of the muscles. In Guinea pigs no physiological effects could be observed. The elimination of these fixed bases occurs probably through the kidneys, whilst methylamine is eliminated by the lungs. Although the proportion of these leucomaines in the normal blood is very small, their presence is nevertheless of interest, in the matter of the elimination of nitrogen.—*Les Nouveaux Remèdes*, Vol. v, No. 6.

A CASE OF FATAL TETANUS DURING ENLARGEMENT OF THE STOMACH.—MR. BEURMANN has had opportunity to observe a case in which a pa-

tient died within a few hours from tetanus which extended to the respiratory muscles. This patient had been suffering for a long time with a considerable enlargement of the stomach, and had passed, a few days before, through another crisis characterized by vertigo, torpor, and a pricking sensation in the limbs. These symptoms, which introduced the fatal crisis, are very common in enlargement of the stomach, and should immediately attract the physician's attention.

Analogous cases are not rare; there are no less than fifteen known to medical science. The first one was published by Kussmaul. Of these fifteen cases eight were followed by death. This justifies the presumption that tetanus originating in the stomach is extremely dangerous. Its extreme gravity, as also its tendency to affect the respiratory muscles, prevents its being taken for common tetanus. Apropos of the latter, it ought no longer to be considered an entity, but rather as a complication which may occur under various conditions and circumstances.

As regards the pathogeny of the spasm in enlargement of the stomach, several theories have been advanced. According to Kussmaul, it is due to a concentration of the blood; according to other authors it is of reflex origin; M. Bouchard ascribes it to a self-intoxication. I favor this last view, although I have had no opportunity as yet to verify it. Mr. Hayem observed a case of enlargement of the stomach in which two successive attacks of spasms occurred. The patient died subsequently from a sort of cholera morbus. Mr. Hayem thinks it possible that the fatal cases mentioned by Beurmann resulted from a displacement of the viscera.—*La Semaine Médicale*, Vol. ix, No. 13.

ETIOLOGY AND ORIGIN OF ACUTE PERITONITIS.—PRIVAT-DOCENT A. D. PAWLOWSKI, of St. Petersburg, has made, in the laboratories of J. Rosenbach, Göttingen, and of Pasteur, Paris, a number of experiments, with the following results:

The first series of experiments with the injection of chemical substances into the peritoneum showed that the different substances (croton oil, trypsin, cold filtrates of pathogenic microbes) produce an aseptic hæmorrhagic peritonitis, with the exception of the cold filtrates of erysipelas cocci which was without reaction.

The second series with microbes showed that even large quantities of non-pathogenic microbes do not affect the peritoneum, whilst a small number of pathogenic microbes, among them the staphylococcus aureus, produces fatal acute peritonitis in rabbits, and the longer the animals lived the more evident became the purulent character of the inflammation. The bacillus pyo-cyanus, which is considered harmless by many, proved pathogenic when injected into the peritoneum.

In the third series of experiments with unfiltered, filtered and sterilized digestive secretions, it appeared that only the first produced peritonitis which is caused by especially short bacilli isolated in pure cultures.

The fourth series of experiments showed that indifferent foreign bodies which can envelop and retain microbes, as also irritated or inflamed conditions of the peritoneum favor, under the influence of chemical substances, the development of acute peritonitis.—*Internationale Klinische Rundschau*, March 17, 1889.

THERAPY OF BASEDOW'S DISEASE.—PROFESSOR EULENBURG, of Berlin, speaking on the therapy of this disease, considers it best to place patients in a sanitarium for nervous diseases. Often the most brilliant results are obtained, even in far advanced cases, in establishments and sanitariums located in high altitudes. Even the worst complications with organic heart-disease, valve troubles, incompensation, do not present an absolute contra-indication to a sojourn in high altitudes as is generally supposed. In some cases few such altitudes are not well borne, rapid circulation, difficulty in respiration, etc., ensuing. In these cases lower altitudes and sub-alpine climates are preferable.

This climatological treatment is aided by the simultaneous use of balneo-therapeutic, diatetic, and electro-therapeutic measures. Regarding the first Eulenburg recommends the lighter forms of cold-water treatment and carbonic-acid baths, and lukewarm carbonic-acid and brine baths of a short duration on the other.

As concerns the diatetic measures the Playfair or Weir-Mitchell cure, milk and kumyss cures should be used as in other neurasthenias (for as such Eulenburg regards Basedow's disease).

As to electricity, a mode of treatment especially developed by Eulenburg, hydro-electric baths are to be used. Eulenburg prefers monopolar cathode baths. With this general electrization a local application of electricity may be combined, either after the method of Romain Vigouroux, or after the method of Eulenburg, who in many recent cases tension—or rather influence—electricity, especially in the form of franklinization on the head (head douche) and the positive point current directed upon the heart. (*Berl. Klin. Wochenschrift*, No. 2 and 3, 1889.)—*Internat. Klin. Rundsch.*

ON THE INDICATIONS FOR LAPAROTOMY IN ACUTE PROCESSES.—GERSUNG, in the *Wiener Med. Presse*, 1888, No. 46, collects all those cases under the name of "acute," in which danger of a suddenly fatal termination compels the physician to decide immediately whether a laparotomy should be made, or whether other remedies are to be used which place less responsibility upon the

physician, and endeavors to decide at what moment safety can be expected only from operation, or how long it may be deferred without depriving the patient of this last possibility of a cure.

Laparotomy should be performed for injuries to large vessels or to organs of the abdominal cavity containing many blood-vessels; traumatic, or in very rare cases spontaneous rupture of liver or spleen; rupture of the foetal sac in tubular pregnancy; dangerous vomiting of blood, and perhaps also a bleeding carcinoma of the stomach. As to peritonitis laparotomy is of value chiefly as a preventive operation; in general peritonitis already existing the prospect of success is very limited.

Laparotomy is indicated whenever the abdominal cavity is opened in order to prevent septic processes, and in perforation (also traumatic) of intestines, rupture of an abscess and flow of pus into the peritoneal cavity, rupture of the bladder, impacted gall-stones, obstructions in the intestines, whether caused by invagination or valvulus, by strictures resulting from scars or new formations, by obstruction from an internal hernia, or by foreign bodies that entered into the intestinal channel from outside, or by a gall-stone remaining in the intestine, by sloughing of a portion of an intestine as a result of inflammatory processes, or by inherited malformation.—*Centralblatt für Gynäkologie*, 1889, No. 12.

SULFONAL FOR NIGHT-SWEATS.—Although the number of remedies recommended for night-sweats is very large, it may not be amiss to give some information regarding a new cure: Sulfonal, the soporific recently so warmly recommended. Bättrich's attention was first attracted to the subject by the case of a lady 80 years old, to whom he had administered only $\frac{1}{4}$ gram as a soporific. The lady had been suffering with night sweats so profuse that her clothes were changed twice every night. After taking this powder, she asked him whether he had mixed anything for those sweats in it. Further experiments showed that in most cases night-sweats could be prevented by $\frac{1}{2}$ gm. of sulfonal. He considered the effect of sulfonal to that of atropin, but it is wholly free from unfavorable side-effects. Moreover its effect is lasting, the sweats of the second night being much less profuse without sulfonal.—*Therapeutische Monatshefte*, March, 1889.

PICROTOXIN, AN ANTIDOTE OF MORPHIUM.—PROFESSOR ÁRPÁD BÓKAI, of Klausenburg, considers picrotoxin the most rational antidote for morphia. The two substances act in opposite ways upon the respiration-centre of the medulla oblongata, morphia paralyzing it whilst picrotoxin increases its activity. In cases of poisoning by morphia, picrotoxin is actually life-preserving, as it checks the paralysis of respiration

and prevents the decrease of the blood-pressure by strong irritation of the vasomotor centre, producing vascular contraction. The opposite effects of the two substances upon the cerebrum is of no importance in poisoning. It must be remembered that the only antidote for morphia known so far—atropin—cannot be given in large doses. Bókai is of the opinion that picrotoxin could be used also as a prophylactic in chloroform-narcosis, to prevent asphyxiation. He promises further reports on the subject.—*Therapeutische Monatshefte*, March, 1889.

REGARDING A NEW BLOOD TEST IN COAL-GAS POISONING.—K. KATAGAMA says this test consists of the addition to blood containing coal-gas of orange-colored ammonium sulphide and acetic acid, which produces a beautiful light-red color, whilst normal blood turns greenish-gray or reddish or greenish-gray. The test may be best made as follows: Dilute 1 ccm. of the blood to be tested with 50 ccm. of water, pour 10 ccm. of this into a test-tube, and add first 0.2 ccm. of orange-colored ammonium sulphide and 0.2–0.3 ccm. of 30 per cent. acetic acid, and turn the test-tube upside down two or three times. Blood impregnated with illuminating gas diluted from 1:5 to 1:7 showed distinctly the characteristic color with the test reagents, whilst the spectroscope proved ineffective with a dilution of 1:4, and Hoppe-Seyler's soda test with a dilution of 1:5. *Centralblatt für Klinische Medizin*, 1889, No. 12.

CAMPHORATED NAPHTHOL.—This mixture is composed of one part of naphthol and two parts of camphor, triturated together *dry*. Désesquelles discovered that naphthol liquefies in camphor, and M. Bouchard has shown the considerable antiseptic power of naphthol, and its great advantage of being non-toxic. He advises the use of camphorated naphthol as a topical antiseptic, having used it with success in many cases of excoriations, wounds, and ulcerations, and in diphtheria as an application to the throat.—*Journal de Médecine de Paris*, No. 7, 1889.

PERNICIOUS VOMITING WITH AND WITHOUT PREGNANCY.—DR. LEVY, in a treatise published by Heuser, Berlin, describes in detail a case of continual vomiting during pregnancy, and reviews a number of other authors on the ætiology and therapeutics of the subject. In the case mentioned the vomiting was a result of anæmia of the brain and ceased after proper treatment of the latter trouble. Another patient was not pregnant; the vomiting originated in a uterine disease, and ceased after the latter was cured.—*Correspondenz-Blatt für Schweizer Aerzte*, March 15, 1889.

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LEGISLATIVE BODIES AND SCHOOLS OF
MEDICINE.

The various Bills or propositions brought before the Legislatures of many of the States, intended for regulating the practice of medicine, form a curious variety and strikingly illustrate the vagaries that still possess the popular mind concerning the nature and extent of medical science and art. A large part of these vagaries arise from the erroneous use of the phrase "Schools of Medicine," and the remainder originate from the confusion of ideas about personal rights. In past centuries, before the natural sciences had been developed into well-defined departments of science founded on carefully observed facts, analyzed and classified; before chemistry had enabled its votaries to resolve almost all bodies into their elementary constituents and determine the relations of each to every other; and before the scalpel of the anatomist had separated the various structures of the human body from each other and enabled the physiologist to study the relations and uses of every part, human knowledge consisted in part of empirical rules concerning the affairs of everyday life and labor, and in much greater part of fanciful theories and speculative dogmas under the name of *philosophy*. In those times each master mind with more boldness and skill in inventing hypotheses and plausible theories than the common mass, drew around him admiring followers, and he became the founder of a sect or so-called school of philosophy. Hence history informs us of the Schools of Aristotle, of Plato,

etc., with their parallels in medicine, as the School of Hippocrates, of Galen, of Cullen, of Boerhaave, of Darwin and Brown; or the School of the humoralists and the School of the solidists. It was thus that the phrases, Schools of Philosophy and Schools of Medicine, used to designate the theoretical dogmas of some bold and skilful leader of human thought, became incorporated into all departments of literature and have been handed down to our time. But with the development of chemistry, organic and inorganic, analyzing and recombining all the materials within human reach, came also the discovery and application of physical laws and forces to the advancement of all the arts and industries of man. Of necessity, the observation, collation and classification of facts, aided by experiments, rapidly superseded and rendered obsolete the dreams and speculative dogmas that had constituted the "Schools of Philosophy" of the past ages, and gave instead our present scientific knowledge of the vegetable and animal kingdoms of nature, and of the inorganic matter with the laws and forces that govern it, under the comprehensive word physics. Under the same influences and in the same parallels of time medicine underwent the same changes. The practical study of human anatomy, the analytical study of all its parts, the discovery of the circulation of the blood, the complex functions of the nervous system, the chemical changes in digestion, assimilation and nutrition, and the counter-changes in disintegration and elimination, soon rendered every previous so-called "School of Medicine" obsolete, by giving us in their place the well developed sciences of anatomy, physiology, and organic chemistry. A knowledge of these branches quickly compelled the recognition of the fact that diseases or morbid actions were only deviations in some direction from the natural functions or structures, and hence the sciences of pathology and therapeutics followed, and with them, *pari passu*, the arts of surgery, practical medicine, and hygiene or sanitation, became as truly departments of science as are physics, botany, natural history and geology. Therefore it is as absurd, at this day, to designate the aggregate branches of medicine as a "School of Medicine," as it is to speak of a School of Mathematics or a School of Natural History. And yet newspaper writers, members of legislative bodies, and even many members of the profession and prominent medical journalists,

continue to speak and write of the "regular School of Medicine" on the same plane as the little bundle of fanciful dogmas they call the Homœopathic School, the Eclectic School, the Christian Science School, the Electro-physio-pathic School, etc.; and it is very rare that any form of law having any bearing on the education or practice of medical men, or on the protection of the public health, is proposed in one of our State legislative bodies that is not marred by some recognition of the various so-called Schools of Medicine.

As examples, a Bill was recently introduced into the Legislature of Pennsylvania providing for the appointment of a State Board of Medical Examiners by the Governor, subject to the approval of the Senate, making no mention of Schools of Medicine in any way, thereby leaving the appointing power untrammelled. But it was speedily so amended that no one school of medicine could have a majority in the Board. So in the Michigan Legislature an Act is pending for a State Board to be composed of two members from the regular, the homœopathic and the eclectic schools of medicine.

Has not the time come when the members of the medical profession should cease to call themselves a "School of Medicine;" and refuse to respond to such designation when used by others? Legislative bodies have the right to *protect* the *people* by enacting such laws as will require every person proposing to practice medicine and surgery to possess a good knowledge of medical science and art, but with medical sects and theories they have properly nothing to do.

MICROBES IN HEALTHY FEMALE ORGANS OF GENERATION.

The presence of various microorganisms in the vagina when in an apparently healthy condition has been noted by several observers. Recently, DR. G. WINTER has been prosecuting a more systematic and extensive investigation, regarding the presence or absence of these bodies in all parts of the female sexual organs when in good health.¹ In the vagina, a variety of microbes were always present, and in considerable numbers. In the os and cervical canal he found a similar variety generally present but not always. He found their number much increased during preg-

nancy. But he states positively that he found no microorganisms of any kind, either in the cavity of the uterus or in the Fallopian tubes. According to Dr. Winter's observations the most numerous variety of microbes present in the healthy vagina and cervical canal, is the staphylococcus, identical with the pathogenous cocci. If his observations on this point are correct, it affords additional evidence that pathogenic germs are harmless so long as they are in contact with naught but healthy living tissues, and become actively disease-producing only when in contact with degenerate or necrotic structure or the products of the same. Again, if these pathogenic germs are always present in the vagina and cervical canal, and increase during pregnancy, it only requires the presence of disintegrating blood or placental débris in the lochial discharge, or even the presence of an atmosphere containing an excess of albuminoid ammonia, to furnish the microbic papulum needed for bringing the puerperal infection into its usual destructive activity. And inasmuch as the lochial discharge always contains more or less blood for several days after confinement, it would seem that every case of labor leaves the woman with all the elements necessary for a possible puerperal infection, present, without reference to what might be communicated by the physician, midwife or nurse. Possibly, however, Dr. Winter may be mistaken in the opinion that the microbes he found in healthy genital tracts were really pathogenic; and other observers may be more fortunate in finding some healthy vaginas free from microbes.

THE MEETING AT NEWPORT.

The Fortieth Annual Meeting of the Association, which is to convene at Newport, R. I., on the 25th of June, promises to be one of unusual interest. The preliminary programme is published in THE JOURNAL, under date of April 13th. It shows that the Committee of Arrangements already has its work well in hand. From the known efficiency of this Committee we are confident that every reasonable effort will be made to render the meeting in all respects a notable success.

We are happy to state also that the officers in the various Sections are actively engaged in securing such papers for presentation as shall command

¹ Zeitschrift für Geburtshülfe und Gynäkologie

the interest of those who attend, and elicit such discussions as time will permit. This is well. The best thought of the profession should be represented there—and those who make sacrifices for the purpose of attending should be amply repaid for the effort.

The assembling of prominent medical men from all sections of our country is pleasurable and profitable. The social gatherings of the profession at these annual meetings are always delightful. But we wish to emphasize the fact that the Association has a vastly more important mission to fulfill than that of simply bringing medical men together for mere social enjoyments.

Its value to the profession and to the people of this commonwealth lies not in its power for the culture of social amenities—pleasurable as that may be—but in the value of the work done, in the several Sections while the Association is in session. Its real mission is, and must be, the promotion of medical progress and the advancement of the healing art. To this end the papers there presented should represent the best efforts of our ablest men, and the same order of talent and culture should be enlisted in their discussion. To this end special care should be had in the selection of the officers of the Sections. And these officers when they accept their responsible positions should do their work so wisely and so well that the programmes when presented to the profession should possess the power to draw all interested men unto them. This manifest need for the future welfare of the Association, we believe, will be largely met at Newport.

RUPTURE OF THE INTESTINE.

At the regular meeting of the Chicago Medical Society, April 15, 1889, DR. J. J. ALDERSON presented a section of the small intestine that had been ruptured under the following circumstances. The patient from whom it had been taken was an adult laboring man, wearing a truss for the support of an inguinal hernia. While engaged in some work a loop of intestine was forced out by the pad of the truss. He succeeded in returning it back into the abdominal cavity, but it was immediately followed by acute pain and the rapid development of all the symptoms of peritonitis, terminating early in death. The post-mortem examination revealed much serous fluid freely

mixed with fecal matter in the peritoneal cavity, extensive peritonitis with some patches of plastic lymph or pseudo membrane, and a liberal opening through the coats of the section of small intestine exhibited to the Society. Dr. Alderson stated that he had been unable to find any case on record of an intestinal rupture under similar circumstances, and thought the accident one of very rare occurrence.

EDITORIAL NOTES.

SUNSTROKE EARLY IN THE SEASON.—At Pittsburgh, Pa., on April 19, 1889, the temperature was reported to have reached 82° F., and John Jenkins, a steel worker, and an unknown man on Smithfield street, were stricken down with "sunstroke."

DR. W. F. WILSON, a specialist in the department of ophthalmology, practicing in Denver, Col., died on April 19, 1889, from an overdose of morphine to produce sleep. He had been troubled with insomnia, and was only 29 years of age at the time of his death.

SOCIETY PROCEEDINGS.

Gynecological Society of Boston.

190th Regular Meeting, February 14, 1889.

THE PRESIDENT, W. SYMINGTON BROWN, M.D.,
IN THE CHAIR.

The report of the Treasurer for 1888, showing a balance of \$404.59, was read and accepted.

PATHOLOGICAL SPECIMENS.

DR. A. L. NORRIS exhibited a placenta with an unusually short funis (nine and a half inches). The patient, Mrs. J. D., married, has a distorted pelvis and has always been delivered with much difficulty by forceps and ether. She has been delivered by me of living children as follows:

February 2, 1887, a male child, weighing 10½ pounds.

February 20, 1888, a female child, weighing 9 pounds.

February 14, 1889, a female child, weighing 9 pounds.

Thus, in the interval of two years and twelve days, have I delivered this patient at term of three living children.

DR. J. COLLINS WARREN, by invitation, read a paper on

THE DIAGNOSIS AND TREATMENT OF CANCER
OF THE BREAST,

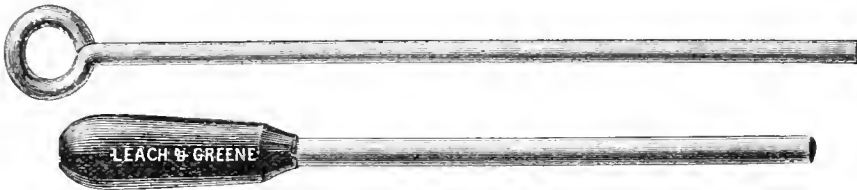
to which the Society listened with marked attention and interest. Dr. Warren alluded to the great changes which have recently taken place in the treatment of this formidable disease, investing it with a new interest to the surgeon. Whereas the old operation contemplated a removal of the mammary gland, with a portion of the integument and a shelling out of the glands in the axilla when enlarged; the methods advocated in England, Germany, and this country now, contemplate a removal of the gland and its coverings; the fascia of the pectoralis muscle and a complete dissection of the fat and glands from the axilla and the lower margin of the pectoralis, and it is known as the "completed operation."

This operation has recently been objected to by able surgeons, and indeed, all operative interference has been thought useless, since it is claimed that life is as long in the average of a large number of cases not operated upon, as in those which have been subjected to operation. Moreover, the complete operation has been said to increase the mortality 50 per cent.

The reader dwelt on the importance, in the first place, of an early diagnosis particularly in

Dr. Warren then gave some statistics bearing upon the mortality of the completed operation, and stated that he had had thirty-one consecutive cases without a death. Gross gives fifty-three cases of his own and his colleagues with two deaths. It is fair to assume that the antiseptic methods are daily becoming more familiar to the average surgeon, and are constantly being improved upon; and in the light of recent experience, it is not too much to hope that a mortality of only 3 per cent. could be obtained. Dr. Warren was unable to give an account of all his cases; but he quoted examples taken from his tables showing an immunity of three years and a half after operation; of four years and of four years and a half without recurrence at the present time. He is in favor of a dissection of the axilla even in cases where there are no glands to be felt; for in one of the cases quoted, glands were found in the pyramidal mass of fat removed from the axilla. He thinks that it is probable that when the statistics of the next few years are rolled up and counted, we shall find that surgery has succeeded in accomplishing a cure in 20 per cent. of the cases.

DR. J. F. FRISBIE: Does Dr. Warren believe the case of Mrs. P. to which he referred, was the result of the blow on the breast?



those doubtful cases which are those usually submitted to the surgeon for a decisive opinion. He showed an instrument, devised by Dr. S. J. Mixer for removing powder grains from the skin, which he had adapted to this purpose. It consists of a canula with a sharp edge which can be bored into the new growth, and, by withdrawing a short distance and then advancing in a slightly different direction, a cylindrical mass is cut off, which can be removed in the canula. In this way good sized sections can be procured, by which a satisfactory microscopic examination can be made, and the nature of the growth determined.

This can be done in the doctor's office with the aid of a subcutaneous injection of cocaine. A small puncture through the skin with a narrow bistoury facilitates the introduction of the instrument. Antiseptic precautions prevent subsequent inflammation, and no trouble had occurred in any of the cases operated upon by him in this way. This is an old method which had been abandoned, but can now be revived and made practical by the advantages offered by antiseptics and improved microscopical technic.

DR. WARREN: I am inclined to the opinion that the blow was the cause of the cancer which developed in her breast.

DR. FRISBIE: Then you believe cancer may follow injury as a result of that injury alone?

DR. WARREN: Yes. There are cases where no other reason can be given.

DR. JOHN C. IRISH: I have been much interested in the instructive and practical paper that has just been presented. The ingenious device, by which Dr. Warren secures a portion of the morbid growth for microscopical examination, is very valuable; for it will give great aid in the early diagnosis of tumors of the breast, that is, as to their malignant or non-malignant character. With women of middle or advanced age, every solid growth in the breast is so liable to contain cancerous elements or to acquire them, even if it is benign at first, that my rule of action is, to advise their immediate removal. If the disease is malignant, its early removal is of unquestioned advantage; if benign, this treatment by excision is not inappropriate. One very important matter that Dr. Warren presents to us for discussion is the question, Whether in all cases of extirpation

of the breast for cancer or supposed cancer, we should make the completed operation, so-called, which consists of as thorough a removal as possible of all the fat and glands in the axillary space? Whenever the latter are appreciably affected, there can be no question as to the necessity of the completed operation. But when there is no apparent disease in the axilla, is there sufficient reason for converting a simple surgical operation into a severe and formidable one? I believe not, for the following reasons:

First. In a large proportion of cases the completed operation will permanently cripple the corresponding arm and hand, that is, the patient to a greater or less degree is forever incapacitated, from performing work.

Secondly. Since it is impossible to remove all the glands of the axilla by an operation that is continued only a reasonable length of time, we have left a nidus for the reappearance of the cancer; and I do not see any reason why a portion of the glands may not afford just as good a one as the whole of them. Therefore, we would logically infer that the completed operation must be a failure in its attempt to prevent or even retard a recurrence of the disease.

Thirdly. The cases of permanent recovery that have followed excision of the breast have been examples of the incomplete operation for the most part. None of these cases could have done better if they had had the completed operation, and most of them would have done much worse; for most of them would have been permanently crippled instead of completely cured.

Dr. Hodges, last fall, published in the *Boston Medical and Surgical Journal*, an article in which he gave the statistics of a large number of excisions of the breast alone, (that is, in which the incomplete operation was made) and in which the cancerous disease afterwards reappeared either in the scar or elsewhere. Among these cases the secondary malignant growths recurred first in the axilla in only 3 per cent. Now, if these statistics of Dr. Hodges are reliable, and no one, so far as I know, has questioned their correctness, in one hundred cases of excision of the breast alone, the cancer will return in only three cases in the axilla first. Now, are we justified in submitting these one hundred cases to that formidable surgical procedure, "the completed operation," instead of the simple excision of the breast, when by so doing we shall kill ten of them, and harm or cripple many of the remainder, when we have only the hope of curing or benefiting three? Could a surgical operation with weaker legs stand upon, logically speaking, be proposed?

DR. A. P. CLARKE said that he had for a long time held to the view that cancer is a local instead of a constitutional disease, and since accepting that view he had been accustomed to advise that an operation for the removal of a cancerous breast

be done with the least possible delay. By means of the microscope an early diagnosis can be made, and much valuable time saved instead of being lost, as it formerly was, when it was deemed necessary to wait until the disease had become so well pronounced that but little hope for recovery after an operation had been decided upon, could be entertained.

He was much pleased with the little instrument, devised by Dr. Mixter and shown by Dr. Warren, for the removal of a small section of the growth, before its excision, for purposes of microscopic examination. He agreed with the reader that all the affected glands in the axilla and vicinity should be removed, however extended the incision has to be carried in order to accomplish this. This method he had followed in his own practice for some years, and he well remembers having been called to assist Dr. Marcy in his first case about twenty years ago. At that time the method of removing the affected glands of the axilla was hardly known or practiced in this country; but the results obtained by Dr. Marcy, as well as by the speaker, showed that quite a large number of the cases operated upon, made a permanent recovery. In regard to the impairment of the arm occasionally resulting, as has been mentioned, this should not be regarded as an objection to the operation, as those results occurred in the earlier cases when the glands were removed, and subsequent experience has taught us how to preserve more of the nerve branches that pass through the axillary space and to the arm, injury to which caused the untoward result. There is another class of cases that sometimes occurs, not mentioned by the reader, in which, after operation for removal of a cancerous breast and affected glands of the axilla, though there is no recurrence of the disease at the former site of the operation, there is a development of cancerous disease at a distant part or in a neighboring organ. In one case occurring in Dr. Clarke's practice, that of Mrs. L., æt. 45 years, he removed on November 19, 1880, the left breast and affected glands of the axilla on account of cancer. The patient recovered, and enjoyed good health for five years, when she began to show signs of cancerous cachexia. After much severe suffering, she died November 18, 1886. The autopsy showed there were extensive deposits of cancerous matter in the liver. The disease appeared in the form of whitish spots of circular shape and of various sizes. These spots also, at first view, had the appearance of ulcers, but on closer inspection, were found to be firm and smooth, and each was depressed slightly in the centre. On section, they were noticed to be hard or schirrous, and yellowish in appearance. Some of the deposits were much harder than others, having the appearance of age, while others were of quite recent date. Some were an

inch in diameter; others of the size of millet seeds. The right kidney contained a few recent deposits similar to those in the liver. There was no appearance whatever of any return of the disease at the original site. The question that is of interest is, was the occurrence of the disease in the liver due to infection derived from the breast before the operation? The extreme hardness of some of the cancerous deposits indicated great age. The speaker believed that if he had been called at an earlier date to excise the breast, the patient would have escaped further infection. Other cases of a somewhat similar history the speaker had seen, but they tended to show that cancer of the breast is a local, instead of a constitutional disease, and therefore, we are justified in resorting to excision of the cancerous breast at the earliest possible date. He would like to hear Dr. Warren's explanation of the secondary deposits in the liver.

DR. WARREN: Secondary deposits in the liver may come about by possible extension of the original disease into the substance of the pectoralis muscle; thence it may go to the thorax, and then we may have a cancerous pleurisy. If an internal depot is once established, a new metastasis in different directions may occur.

DR. F. L. BURT remarked that the difference of opinion of authorities has its influence on other men who are not authorities. Both the time and extent of the operation are of importance. Dr. B. has seen recurrence of the cancer on the line of the cicatrix. He believes that the majority of cases which need any operation require the completed operation. The *American System of Gynecology* has an article by Dr. Gross in which there are pictured wounds, both open and closed. Possibly this makes no difference in the recurrence. He has seen some operations where a great amount of skin was removed, but the wound was closed and the patients went home in three weeks. Of thirty-five cases, the later ones went home in eighteen days, and the healing was by first intention, which is very different compared with several months when the wound is left open. He has seen two cases of recurrence. One recurred in a year and a half, and the other recurred in four weeks in the skin.

DR. MARY E. BATES asked Dr. Warren if, on general principles, he would remove a growth the size of a hen's egg?

DR. WARREN: Some growths of that size have been found to be cystic on exploration, and the fluid ran out through the canula and all then collapsed. It is a good rule to use the exploring canula in doubtful cases.

DR. S. J. MIXTER: The punch spoken of by Dr. Warren was devised by me to fill a want Dr. Warren noticed and had mentioned to me, namely: something that should take the place, in solid tumors, of the aspirator in tumors with fluid con-

tents. Instruments were long ago invented for tearing shreds of tissue from tumors and organs situated beneath the surface of the body, the best form being a very small pair of forceps that could be introduced through a trocar, canula or aspirator needle. These, however, gave but small shreds, which were not large enough for sections, and were unsatisfactory for examination in every way. The instrument shown is simply a steel tube, which may be of any convenient size, fitted with a cylindrical needle and sharpened at the end by being bevelled from the inside, the edge being at right angles to the axis of the tube. By making a puncture through the skin with a tenotome and introducing the punch through the opening, it is made to cut its way as far as necessary by rotation with slight pressure. The tube is then withdrawn about a quarter of an inch, the point turned to one side, and again advanced and rotated, thus cutting off the lower end of the cylinder. The finger being placed over the upper end of the tube, it is then withdrawn, when the piece of tissue is pushed out of the tube by a plunger. In this manner any solid tumor that could safely be reached by the aspirating needle can be examined. The pain of the operation is slight, and may be relieved by a deep injection of cocaine. I have examined in this manner tumors of the breast, tongue, face, antrum, uterus, deep-seated tumors of the neck, etc.

It has been stated that dissection of the axilla is not called for, as it cannot be complete in any case, as the region above and behind the axillary vessels and nerves cannot be reached. Of course, when the disease extends from the axilla in every direction, as in advanced cases, a thorough dissection cannot be made. But I have found by injection of the lymphatics from the breast, that the course of the vessels and chain of glands is over the edge of the pectoralis major close to the muscle, and then toward the apex of the axilla, *below and in front of the vessels and nerves*. Unless the disease in the axilla is far advanced, we find no glands above them. As another objection to the completed operation, it has been stated that the arm must necessarily be disabled. By observing the rule laid down by Küster that the subscapular nerves be saved, and by preventing the gluing of the arm to the side by the cicatrix, these difficulties may be overcome. By careful dissection the nerves may easily be saved, and by stitching the skin high up in the axilla by a quilted suture to one of the upper serrations of the serratus magnus, in the manner that I have described elsewhere, there need be no cicatricial contraction. By making the incision so that the line of suture of the breast wound is vertical, and prolonging this incision, not along the middle of the axilla, but *above* the axilla high up on the pectoralis muscle, the final line of sutures, when the arm is at the side, is in full view in front. By the use

of this method in a considerable number of cases. I have been able to give a useful arm and one that could be easily raised above the head, even in cases where it has been necessary to remove a large part of the pectoralis major, and where a large surface was left to heal by granulation.

DR. HENRY O. MARCY stated that he had listened to the paper of Dr. Warren with exceptional interest, not alone on account of its scientific merit and practical instruction, but because it marked a departure almost revolutionary from the teaching which had dominated the surgical thought of Boston, particularly as representative of the views emanating from the Massachusetts General Hospital.

Twenty years ago it had been his good fortune to be the pupil of the late Dr. Bennett, of Edinburgh, who strongly held to the opinion that cancer was first a local and not a constitutional disease. Convinced of the correctness of these views, Dr. Marcy proceeded at once to put into practical execution the legitimate deduction, that if cancer is a local disease its treatment should be prompt and thorough as possible in its eradication to be effective. This led him very early to the careful dissection of the axillary glands and all suspicious and superfluous fatty tissue, and it has been his custom in all cases to dissect carefully the axillary space. Although it cannot be doubted that such radical measures add materially to the gravity and difficulty of the operation, especially as done before the days of carefully applied aseptic surgery, in his own experience he recalled but two cases during all these years where the operation had resulted fatally. This good result, however, he ascribed in large measure to his early adoption of Listerism, and its application in all its painstaking details. He recalled one of his first cases, operated on in 1871, where he removed a cancerous mammary gland of the right side from a young, fleshy, and otherwise healthy woman. This was not alone true cancer as judged by himself, but the opinion was confirmed by Dr. Fitz, since Professor of Pathology. In the primary operation the axilla bore no evidence of disease and therefore was not opened. Three months later, however, the axillary space was filled with a mass of enlarged glands, which he dissected out very thoroughly, quite after the manner described by Dr. Warren. He had the satisfaction a few months since of examining this patient. She has remained in good health without the slightest impairment or discomfort in the use of the arm. More than ten years since Dr. Marcy sent a poor woman, a coatmaker, to the Massachusetts General Hospital, for the removal of cancer of the right breast, where the glands of the axilla were also affected. She was refused admission, because of the advanced stage of the disease rendering, in the judgment of the surgeons in charge, the operation ill-advised. Assisted by

his friend Dr. T. H. Burchard, of New York City, at that time his guest, they made the dissection complete. Although he has twice since removed recurrent glands, when seen quite recently she was still earning a livelihood with her needle. At the Hospital Dr. Marcy recently removed recurrent cancerous glands from a patient from whom he had removed a cancerous breast six years ago. In the primary operation he was assisted by Dr. W. H. Baker. During these years she had had no discomfort. Although these illustrative cases are the exception, they stand for a class of accepted cures and teach the advantage of early radical treatment. Dr. Marcy was assured that Dr. Warren had given expression to the opinions of a large class of modern surgeons, which views he was glad to believe would early be accepted by both physician and patient as a decided advance in the surgical treatment of this most dread disease. He heartily congratulated Dr. Warren upon his distinctive satisfactory results.

DR. G. W. JONES asked Dr. Warren if it is dangerous to leave any fat.

DR. WARREN: The cases differ. Some are seen with little or no fat, and sometimes there are layers of fat and tissue. This it is important to remove as much as possible. Dr. Warren referred to a case of cancer of the tongue, that had been on the iodide of potash treatment for syphilis and did not get well. With the canula the diagnosis of cancer was made, and the operation was performed immediately. In abdominal tumors, Dr. W. has used the largest-sized aspirating needle with suction for the purpose of exploration. In a case of kidney disease we generally get only blood, but if the material in the needle is carefully examined with the microscope enough tissue may be found for a diagnosis.

DR. S. N. NELSON testified to the advantage to both patient and surgeon from the possibility of accurate diagnosis of new growths before operation. Formerly it was necessary to wait until after removal before the specimen could be examined by an expert and the verdict rendered. In the sister profession an attempt is made to determine the *necessity* for punishment before it is inflicted. Should not we do the same? The ingenious instrument invented by Dr. Mixer opens a new era, rendering this possible. By the use of this simple device we are enabled to procure our specimen before operation and without injury to the patient, and subsequent procedure can be determined upon at leisure. This, it seems to me, is the greatest gain to the patient in the possibility of obtaining proper treatment. This gain may well be compared to the advantage which the higher powers of the microscope give us over the examination of the gross specimen; for it enables us to utilize these high powers at the time when their testimony is most needed.

Dr. Nelson himself has been accustomed to

make microscopic examinations of the cervix uteri in suspected cases, after etherization of the patient. A small piece is readily snipped off with the scissors. It is put at once upon the freezing microtome and sections are made, which, stained in alum carmine, render possible an opinion, if not a positive diagnosis, in five minutes from the time of procuring the bit of tissue, the patient continuing in the state of anæsthesia; and then the necessary operation is at once performed. If however, the expert with his laboratory facilities cannot be present at the operation, or if more time is desired for making the diagnosis, the small bit of cervical tissue can be obtained with the aid of cocaine, and, after diagnosis, the operation can be performed subsequently under ether. But I think a better specimen can be obtained for examination by Dr. Mixer's device than by the scissors, even where it is possible to use them. A great advantage in Dr. Mixer's instrument, as it seems to me, and one not mentioned by any of the speakers, is that by its use there is obtained a specimen which may be a sample of the whole new growth, even including normal healthy tissue. Thus we get not only the centre, where the pathological changes are the greatest, but also toward the edges where they are less marked, and even the advancing borders themselves; and thus the invasion of the healthy tissue can be studied. Of this every microscopist knows the advantage.

In illustrating the use of the instrument, Dr. Warren had brought a breast which he had amputated that morning, in which the diagnosis of cancer had been established by its aid. The site of entrance of the canula a few days previously showed as a small red spot. The cylindrical specimen removed was about $1\frac{1}{4}$ inches long and $\frac{1}{8}$ inch thick. One-half of it divided longitudinally was exhibited. From the other half sections had been cut both longitudinally and transversely, and these, with others, were exhibited by

DR. WM. F. WHITNEY, who called attention to them, as showing what good topographical sections could be obtained from these exploratory punchings. In view of the more extended operation now performed in cases of malignant disease, he said it was now more than ever essential that the surgeon should know exactly the nature of the growth with which he had to deal. And with the aid of the instrument shown by Dr. Warren he was able to judge what he would be called upon to do before he touched his knife.

ELECTRICITY FOR ASCERTAINING THE TRUE NORTH.—The *Electrician* reports a rumor from Berlin to the effect that a means has been discovered of using electricity for ascertaining the true north, instead of the magnetic needle; that in short, the new means will be superior to the compass and is likely to supersede it.

Obstetrical Society of Philadelphia.

Thursday, March 7, 1889.

THEOPHILUS PARVIN, M.D., IN THE CHAIR.

DR. J. M. DA COSTA reported a

DOUBLE UTERUS AND VAGINA.

Uterus normal in length, with thin walls and antelexed; otherwise well shaped, but with septum of from $\frac{1}{16}$ to $\frac{1}{8}$ inch thick, running from the tincæ to fundus, dividing it into two equal parts. Both sides of uterus were open, and a sound could be easily introduced into either side. Septum perfect in its entire length.

Vagina on first inspection appeared like a single one, but closer examination showed a septum reaching from the vulva to within less than $\frac{1}{2}$ inch of the uterus, attached to and tying together the front and back walls of the vagina. Septum was thick and fleshy near vulva, thin near uterus. Opening on left side of vagina was good but small; that on right side not to be seen at first, but could be found by hooking the finger around the cervical end of septum and working it down, when the end could be seen at the vulvar opening. Septum was cut and raw edges stitched together. Before operation the septum was about $2\frac{3}{4}$ inches long; after cutting and suturing the parts contracted to about $1\frac{3}{4}$ inch long, and the vagina, which before operating would with difficulty admit the very smallest speculum, bore easily the largest-sized "Nengebauer" blades. March 6. The severe pelvic pains she continually suffered from have all disappeared. Menses formerly were a mere discoloration, lasting twelve to twenty-four hours; she is to-day just over a good full menstruation, which lasted over four days.

DR. J. M. BALDY read a paper entitled
COMPLICATIONS FOLLOWING ABDOMINAL SECTION.

The attention of surgeons, in the past and at present, has so commonly and almost exclusively been called to the perfection of the different abdominal operations, that sight is lost of the possible complications which may follow; or if noticed at all, they are kept locked up in the bosom of the individual himself, and the profession at large hears and consequently knows very little about these annoying, and at times serious results. In consequence of this, medical men are continually running across these patients and are having their faith in the value of the original operation shaken. Most men go into an operating room, see the operation, have a pathological specimen shown them, and then go away, satisfied as to the justifiability of the operation and confident as to the results. They may or they may not see the patient several times during the treatment, but are generally satisfied with an inquiry as to how the patient is progressing, and finally have the satisfaction of

hearing that she is well and has been discharged. The case is probably reported as cured in some society or medical journal, and thus the favorable statistics are swelled, and inexperienced and untrained men are led into attempting the operation, usually with the result of sacrificing several lives before they are frightened off.

It is about time for surgeons to look at and seriously study some of the dark sides of abdominal surgery; for a dark side it certainly has. Our results, as far as removing disease is concerned, are about perfected; let us now turn some of our energies into preventing or alleviating some of the after complications which are in many cases as bad as the original disease itself; probably not causing such immediate danger to life, but producing symptoms just as hard to bear, as far as the patient is concerned, and practically, to her belief, fully as bad, at times, as her former trouble.

When I first began to turn my attention particularly to gynecological surgery, especially the abdominal variety, I was considerably worried that my cases did not always run as smooth and uncomplicated a course as I had been led to believe those in the hands of my friends and others did. That they were not perfectly well when they got up, and came to me sometimes for weeks, complaining of one thing or another, was a source of great mortification to myself. And finally I began to find that troubles continued and others appeared which it was extremely difficult to control. At first, supposing that I was the only one so afflicted, I thought there must be something radically wrong, either with my operations or with my handling of the case afterward; and yet I could not reconcile these thoughts with the fact that I usually had the very best of assistance at the operation, and the constant advice of most competent men in the conduct of the after-treatment. Now I am constantly seeing and hearing of cases with similar troubles as my own, and some with complications I have never personally met with. These cases are by no means confined to the practice of any one man or any class of men, but represent patients of nearly every prominent operator in this city. Nor do I think that these results are confined to Philadelphia, but will be found wherever abdominal surgery is practiced.

To fully consider the causes, prevention and cure of these complications, is beyond the scope of this paper; my object being simply to call general attention to the prevalence of their existence and to make a few remarks on the most frequent of them. Some of the subjects have been, from time to time, noted by other surgeons, and have been called to the attention of the profession, only to be dropped almost as if they were subjects not to be handled and publicly discussed. Among the most frequent of these might be mentioned hernias; simple fistula tracts; fecal fistulas; pain, pelvic or abdominal; edema of the lower extrem-

ities. I have seen many patients suffering from all of these troubles, and have had some of them follow in my own practice.

Holmes has found that he had 30 per cent. of hernias following his operations. Now, as these cases were for the most part hospital patients, he could certainly not have kept track of them all, and so, if the whole truth were known, the per cent. would be much higher. It would seem, at first sight, that a patient developing a ventral hernia would return for treatment; but not so, for in my own case, with the exception of one patient, none of them ever reported, and I only discovered their existence from outside information. Thirty per cent. is, I think, a fair average of hernias following section. Most of the operators with whose work I am familiar have, I am confident, almost if not quite that proportion. I know of many cases in this city, of which the operator himself is not yet cognizant. Now, a ventral hernia is by no means a harmless thing. I can recall women who suffer almost as much from the presence of the hernias as they did from the original disease; in fact, more so. One case I know of had originally a small, unadherent ovarian cyst, found in the course of a general examination, and which gave her few or no discomforts. She now has a good-sized ventral hernia, from which she suffers considerably. These hernias constantly tend to increase in size, and where the woman is one who must be on her feet constantly, carrying heavy burdens, lifting heavy weights, or in fact doing anything which will increase the tension at the abdominal opening, the result must invariably be a rapid enlargement of the protrusion, with all the accompanying distresses. There is no good reason that some of these cases should not eventually, from various causes, become strangulated, and require a second and more serious operation; this has actually occurred. The mere protrusion and displacement has caused so much trouble, that an operation has been devised for the closure of the opening. The causes of hernia have been somewhat a matter of discussion; some contending that the drainage tube is most at fault, while the advocates of the tube repudiate that idea. Then again, improper suturing is charged with the results. Whatever the cause, the lesion is certainly a lack of union of the muscular tissues and the deep fasciæ; the remedy is plainly that of securing perfect apposition of the edges of these tissues. Time is frequently, in an operation, a most important element, and there is no need of wasting it by passing a separate row of sutures in the peritoneum itself, as has been advocated and practiced in some of our neighboring cities. The peritoneum always unites, and does so in a very short time. As far as I know, it has never failed to do so, excepting in those cases where the whole incision failed. The hernia is always found to have a covering of skin, superficial fascia and perito-

neum. It seems to me that a continuous catgut suture of the muscles and deep fasciæ is all that is needed, beyond the usual all the way through suture. I can recall a case where the presence of a hernia, by demanding an operation for its closure, resulted in the death of the woman.

This city now contains a large number of women with fistulous tracts in their abdomens. Some of them have followed drainage, and others have been produced by abscesses rupturing through the incision, and the track never closing again. The extraperitoneal method of treating the pedicle in hysterectomy is a very frequent cause. The length of time it takes the clamp to come away is often so great as to leave an opening, which constantly discharges pus, in small quantities, it is true, but yet enough to be exceedingly annoying and uncomfortable. I have had two such fistulæ following hysterectomy, and neither of them have I yet been able to cure; one, however, now gives fair promise of soon closing. I have, fortunately, had no other fistula tracts following my operations. One case I know of was a few years ago operated on for some pelvic trouble, and after a few weeks the patient was sent to her home with a drainage tube (rubber, I think), in her abdomen. The surgeon lost sight of her, and the tube, being neglected, became most foul. The case afterwards drifted into one of our large general hospitals and there died. Another case was operated on for a pus tube. The second tube and ovary, being apparently healthy, were left *in situ*, but these afterwards took on disease and a second operation failed to remove it. A third operation was undertaken by another surgeon, with what result was never known but by a select few: certain it is that a fistula track followed, after a severe illness. This woman also finally found her way into one of the general hospitals, and was miserable enough to die, if she did not do so; what finally became of her I do not know. A third case had one side of a double tubal trouble removed, and the drainage track never closed. I saw this woman a year or more after the operation, on her deathbed. The track was discharging pus freely and always had done so. Before her death feces were also finding their way through the opening, a slough having evidently come away from the bowel. A fourth case, after everything else had been done without success, had a counter-opening made into the vagina by another surgeon into whose hands she had fallen. The operation also, unfortunately, opened the bladder, so high up that it was impossible to repair it. She has now a vesico-vaginal fistula in addition to her other troubles, and at last report was in a dying condition. And so I could go on with case after case, some as bad and some not so bad; but, at its best, a fistula is a most miserable complication, and too much attention cannot be given to their prevention. If the drainage-tube is not responsi-

ble for the herniæ, it certainly is for a large number of the fistulæ; and although I am a firm believer in the advantages to be derived from free drainage, I fully realize its disadvantages, and often wonder if it could not be done away with oftener than it is. The great preventive of the formation of these fistulæ is to prevent abscesses forming and the necessity of their subsequent discharge, if they do form, it is better to go boldly in and empty them at once, than to wait and have them open by a slow, tedious and uncertain process, which may not be brought to an end before the patient is; the avoidance of the unnecessary use of the drainage tube and, when it is used, the most careful attention to its cleanliness, and its early withdrawal. I believe a permanent track results oftener from an unnecessarily prolonged use of the tube than from any other cause.

Fæcal fistulæ are not so common, and yet enough of them occur from time to time to be a warning of the danger of their production. When they do occur, they are usually so deeply seated and so bound around by inflammatory products that they cannot be reached, and if they are reached, as a rule, require one of the most dangerous and difficult operations in the whole range of abdominal surgery. I can recall a number of these accidents. One could not be reached after an extended trial, and the whole incision was closed up in order that the patient might die as quietly as possible; this she did not do, however, but lived in spite of everything, and the track afterward closed of its own accord. Another case required the most constant and careful irrigation, after an unsuccessful attempt had been made to reach it, to save the woman's life. And so they go; if an attempt is made to close them, a great risk is taken; if they are let alone and do not close spontaneously, the patient had better be dead. The usual cause, as far as I have been able to observe, is intestinal adhesions to diseased organs. Often after tearing a loop of gut loose, I have returned it in fear and trembling, lest a piece at the point of adhesion slough out and give me a fecal fistula. The prevention is the greatest care in tearing loose each adhesion, and a most careful attention to the after-treatment. When they do occur, they are best left alone.

The continuance of pain or the appearance of a pain not before present, following abdominal section, is so common, that every one engaged in this kind of surgery must have noted its frequency. This pain is usually not very severe, but is of a constant nagging character, such a one as to so constantly wear on a woman's nervous system that it soon renders life a misery to herself and a burden to every one around her. At times, however, it assumes a severe character and becomes almost unbearable. I have known of a large number of such cases, some of which required an operation for their relief. In two cases

of this kind the only lesion found was an adherent omentum to the abdominal incision, the freeing of which cured the pain. Many others are now going about, suffering as much as they did before the operation. Most of this pain is, I believe, due to adhesions formed between the omentum or intestines and raw surfaces left by the operation, and the subsequent dragging on these points. This would seem to be true, as most of the cases which I have known of and which were operated on and the adhesions released, have been cured or nearly so. I also think that the adhesions in the original disease often cause most of the suffering; this is especially so in the pelvic cases. From these same adhesions we have sometimes an obstruction of the bowels, either at once, or later after convalescence, and causing death in consequence. I can remember several cases of this kind which could be explained in no other way; and, in fact, some of which were demonstrated to be so by a post-mortem examination. The remedy for their formation and all their attendant dangers and discomforts is to keep the bowels moving, so they can have no chance of adhering. The best way of accomplishing this is by purgatives, and by the non-use of opium. Fortunately, the indications for purgatives are so many and so constantly present, that they can almost always be used.

Œdema of the lower extremities I have a number of times seen; sometimes only temporary, but at others of long enough duration and severity to be of considerable annoyance to both patient and surgeon. In my own practice this has occurred several times, but has always eventually cleared up.

When every person about to undergo an abdominal operation must run the gauntlet of all these complications, as well as many more unmentioned, it becomes a serious matter in deciding for or against an operation. We have here more than the immediate risks to life to consider; we must think, if the patient has his or her present disease removed, will she be any better off, or may she not be the worse for the interference? At any rate, such a state of affairs should be a warning to inexperienced men not to be misled by the brilliant reports seen in the journals, and not to rush thoughtlessly into an operation, expecting to produce the same perfect results. They should know that, as a rule, only favorable cases are reported, and that men do not like to publish to the world their bad work or misfortunes. Abdominal surgery is by no means the simple, easy procedure some men would make us believe, and such an operation should never be undertaken except after the most careful consideration of all the risks that must be run, the chances of benefit to the patient, and in the presence of actual demonstrable disease. Until the dark sides of abdominal work are well known to the profession at large, the *furor operations* which have been so justly complained

of will continue, and many women will succumb to the results of inexperience. He has had cases of fistula where the drainage tube was not used, but these were due to non-encapsulation of the pedicle ligatures. In one, while using the syringe, the ligature was washed out. This gave him the cue, so in the others he fished the ligature out by means of a small hook on the end of a fine wire. On the other hand, in the case of an ovarian abscess, he had kept drainage up for several months, and yet the track closed. It is his intention in a third case to pass nitric acid to the bottom of the fistula and see what can be accomplished in this way. In this case she menstruates through the track. He thought if operators would wait some time after they have operated, before reporting their cases, they would find a number of hernias. He takes a good deal of pains to avoid this accident and close the abdominal wound in an analogous way to that described by Dr. Price. The tendon, when retracted, he brings forward as much as possible with forceps, so as to bring it in contact with its fellow. He has had cases, in spite of every care. In the official report of Imlach's cases, although these were all cases of oöphorectomy, needing a very short incision, the percentage of hernias was 15. He keeps his patients in bed for two weeks before allowing them to sit up. In two cases in which he removed the ovaries, in fibroid tumors, he has had the incision rupture from too early taking out of the stitches. In these cases he sometimes leaves them in for two weeks. One case went home nineteen days after operation, in spite of orders, and the train becoming derailed, the jarring forced the cutaneous part of the wound open. Stitches had to be put in.

DR. M. PRICE did not think with Dr. Baldy that abdominal surgery had anything to regret in these cases. He admitted that much of the dirt and filth, and many of the accidents which follow these terrible operations, are actually due to the surgeon. He did not wonder at there being fistulous tracks, for the reason that in many of these cases the adhesion to the bowel are of such strength that their separation often removes everything down to the mucous coat. He has seen as much as six or seven sutures applied to such a case. Fistula is a repetition of the old abscess, which finds its way to the surface through the drainage track. All of the disease has not been removed. In many cases the fistula saves the woman's life, and gives the surgeon a path through which to perfect his otherwise imperfect work. Fistula is a proof that the case has not been properly cared for. He did not believe that 30 per cent., or even 5 per cent., represented the number of hernias. He has only seen two cases follow. Their closure is untended with danger. If due care and cleanliness are observed fistulae will not occur.

DR. WM. GOODELL wholly agreed with the writer of the paper in regard to the stubborn nature of these fistulae, and to the impossibility of avoiding them. He had now three cases of fistula. One had followed the removal of an intra-ligamentary cyst, in which he had reopened the wound for bleeding. She recovered, but a faecal fistula had made its appearance about the fifth day, and had never closed. He had to peel off the tumor from the rectum. It was now a year and a half since the operation, and she was in the hands of a competent surgeon in the country. The only annoyance to the patient is an escape of gas from the wound. The second case, followed, the prolonged use of the drainage tube, after abdominal section, for pelvic abscess. He had not had charge of the after-treatment, but she was in the hands of a skillful surgeon. It may be needless yet to make a counter opening in the vagina. The third case was one of recurrent, intra-ligamentary cyst. The fistula resulted from a previous operation in which the surgeon used the clamp many years ago. He operated last November, and removed a recurrent cyst lying in a very large abscess cavity. A drainage tube was then used, which he still kept in because he could not get the fistula to heal from the bottom. To-day he made an application of iodine to the tract and told the husband to repeat it daily for a time.

DR. J. PRICE was a little surprised that one so deeply interested as Dr. Baldy was in this subject of abdominal surgery, should stimulate vicious elements to criticism of our present position, especially since they now had their attention turned towards surgery of the brain, spinal cord, etc. Dr. B. speaks of hernia. The position of the incision, the condition of the abdominal walls and the manner of introducing the sutures are of great importance. Death has followed tight sutures, and he was satisfied that herniae often followed them. He always draws his sutures lightly. If you used three or four to the inch, tied them lightly, with perfect coaptation, your results will, as a rule, be perfect. In introducing his sutures he takes in half as much skin as fascia and twice as much fascia as peritoneum. This gives better apposition to the centre of the wound. He has not had a suture track abscess for more than a month, nor has there been any mischief about the tube. Nursing is of the greatest importance. The old nurses are meddlesome and dangerous, and he was glad to see them replaced by younger women. The tube can be dispensed with very often if the irrigation be thorough. Most surgeons are in too much of a hurry to get their patients up. Early rising is dangerous, and he has known surgeons to brag of getting their patients home in ten days. In fistulous tracks through which menstruation occurs, the only thing to do is to tie the tube and

release it from the abdominal incision. He was often led to deliver the bowel, in order to release adhesions and even then torn the bowel down to the mucous coat. This does no harm if the serous surfaces are brought together. A drainage tube resting against those torn bowel surfaces favor the occurrence of a fistula. A man who gets scared at a fistula or ventral hernia is not prepared to do good work; his work begins in doubt and ends in disaster. The operation for curing a ventral hernia is not dangerous. We cannot ignore the importance of precision in diagnosis. We must try to decide as to the probable nature of the lesion. Dr. Baldy called attention to one point, that is the necessity of recognizing something definite, on which to operate. Savage and others are satisfied to operate for subjective symptoms only. This is not right.

The other day he refused to operate in a case which had multiple abscess in the lungs. Two weeks before he had gone to the house prepared to operate, but the family had refused. The time will come when operators will be most arbitrary in these cases. We shall have the right to say, that if the general practitioner waits until the eleventh hour, we will not step in, only when it takes a feather to depress the beam. Last summer a patient refused operation, to-day she sent for me and requested it. Peritonitis is often due to an imperfect toilet. It is often of limited extent or localized, leaving adhesions to portions of the viscera. This is a common source of pain and discomfort. The only good remedy is to do the work over and release the adhesions. This past summer he had either done himself or assisted others do eight of these operations over, and they had been the most difficult and trying of his whole experience. He wished to call attention to one case on which he had operated three times. Dr. Baldy saw the work. When he first saw her pus was escaping from the umbilicus. He opened the abdomen but failed to remove anything. Drainage was followed by a good recovery, but the wounds did not close. A year later he reoperated, but a fistulous track was left. Again a year later he used a catheter made of coils of wire. He passed this along around the ileo-pectineal line, towards the region of the kidney. He dissected along the pelvic bones and irrigated through the catheter. Last week, she was delivered of a fine baby, somewhere in the west. In this case he could find the ovaries and there was no lesion of them or the tubes. This is the only case of pelvic abscess without tubal disease, he had ever seen, in a long and rich experience. He wished to speak of two of the cases referred to by Dr. Baldy in his paper. One case he had operated on early in his experience, and had removed only one side of a specific tubal trouble. This he would never do again. The patient went into other hands and he did not

care to refer to the ghastly surgery which followed. Another case of which he had personal knowledge, was a case of imperfect surgery. This was a large pus sac which could have been removed, but was drained. The woman died of psoas abscess. Skene had called attention in his book, that pelvic abscess frequently caused spoas abscess. The incomplete removal of diseased tubes, should be rectified. If an inch of tube is left it will most likely do mischief. He has curetted into the cavity of the uterus, removing a cone-shaped piece. The tubes should be tied hard on to the uterus, and the ovaries should be tied at a good surgical neck, and the results will be about perfect.

(To be concluded.)

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

Scheme for Providing Ambulances for the Metropolis—Color Blindness and Color Perception—Causes leading to Outbreaks of Measles in Glasgow—Glycerine Enemata in Obstinate Cases of Dysentery in young Children—Tobacco Smoke as an Antiseptic—Influence of Electric Light upon the Eyes.

Mr. Ryan recently read a paper at the Middlesex Hospital before the Hospitals Association, which gave the outlines of a scheme which will be a great boon to Londoners. Dr. Livingstone is said to have remarked that the ordinary wayfarer in the streets of London stands in more danger of injury to life and limb than a traveler in the wilds of Africa. What is now wanted is a number of proper ambulances scattered all over the metropolitan area, so that in case of accident one shall always be obtainable. Mr. Ryan's paper set forth the details of a scheme which has been elaborated with this object. Briefly, the plan is to raise a fund of £1,500 for the purchase of seventy Ashford litters, in addition to those already kept at police stations and certain hospitals, and to distribute them at a number of new stations within the four-mile radius. Mr. Ryan suggested that the Fire Brigade stations would be good centres. But still other posts would be required, and there, it is suggested, might be certain railway stations and public buildings. It was announced that there would be no difficulty about the £1,500 required for the initial outlay. What is wanted is the collection of a guarantee fund to cover the cost of generally keeping up the undertaking. The annual expense is estimated at £277. The scheme, it is announced, will soon be an accomplished fact.

Dr. Eldridge Green, in a paper upon *Color Blindness and Color Perception*, held that the color

perception centre of every individual was able to appreciate a certain number of units of color, these units corresponding more or less to the bands of the solar spectrum. Dr. Green considers the average number of units to be six, namely: red, orange, blue, yellow, green and violet, but persons of unusually good color perception passed a seventh, viz.: indigo or dark blue, which was placed between the blue and the violet. In persons with color perception below the average, one or more units of color would be wanting. He considered that orange was the first to disappear, and it was replaced by a widening of the red and yellow bands. Such a person belonged to the five unit class. The blue band disappeared next, the violet then extending to the normal blue green junction. The next band to fail was the yellow, the red then reaching to the green. The green and red then became as one band, and so the units were reduced to two, the violet still remaining. In total color blindness these two were replaced by a neutral band. Dr. Green deduced the following facts as to color perceptions in his investigations: 1. A person can have no conception of a color which does not form one of his psycho-physical color units, or a very apparent modification of one of them. 2. If the colors belonging to two adjacent units be mixed, an impression of both units is obtained which is plainly perceived as a mixture. 3. If two colors not adjacent be mixed the intermediate color will tend to be brought before the mind, or white will be the result in the case of pure light, gray where there is partial absorption. 4. If any number of colors be mixed, the resulting impression will be that of a unit, a modified unit or white.

Dr. Russell, Medical Officer of Health for Glasgow, has published some rather startling statistics tending to show that an outbreak of measles in his district was due to infection during attendance in church. During the month of January forty-two persons belonging to the congregation of a Gaelic church were taken ill with measles. Taking twelve to fourteen days as the recognized period of incubation, Dr. Russell connects two serious groups of cases with the attendance at the church of two girls, on December 30 and January 13 respectively. One of these girls, it is ascertained, had come from an infected house, while the other had actually taken the disease two days before. Two other girls who usually worshipped elsewhere, but were in this particular church on the 13th, became ill on the 26th, and other circumstances pointing in the same direction are noted. Dr. Russell considers that unless something like perfect isolation and disinfection can be guaranteed to a person who is suffering from infectious disease in a house, all healthy members of the household should be debarred from attendance at school, church, or other place of concourse.

Lately Dr. George Rice has found that the gly-

cerine enema is one of the very best and most reliable means of combating the obstinate dysentery in young children which is frequently most difficult to relieve. Simple diarrhœa, too, quickly yields to the glycerine treatment, a couple of drachms being, according to Dr. Rice, generally sufficient to ensure some improvement, which a second dose completes. In place, however, of enemata of the ordinary kind, Dr. Grewcock recommends a tuft of cotton wool soaked with glycerine and applied in the same manner as a suppository, a few minutes sufficing to bring about the desired result.

Tobacco fumes have often been stated to be antiseptic. More than once it has been said that smoking has protected a house from small-pox, and even from cholera. Quite recently Dr. Hajek, of Vienna, has declared that smokers are less liable to diphtheria than non-smokers in the ratio of 1 to 2.8, and Dr. Schiff says that smoking is forbidden in the bacteriological laboratories, because it is known to hinder the development of bacteria in the various culture media.

A communication has been made by a well-known oculist of Cronstadt concerning the bad influence of the electric light upon the eyes. There have come under his observation within the past ten years thirty people suffering from a disease of the eyes. The symptoms were the same in each case, and all the patients had perforce of their employment been accustomed to remain for hours at a time near electric lighting apparatus. The new disease is called photo-electric ophthalmia. The patient is apt to be wakened in the night by great pains around the orbits, accompanied with an outpouring of tears. Intense photophobia is another characteristic of the malady.

A parcel was during this month discovered by the porter of the Huddersfield Infirmary, and on being opened it was found to contain 225 sovereigns. This is the second gift presented to the institution in this strange manner, a sum of £284 having been left at the Infirmary a few years ago.

Miss Flavin, a young lady from Liverpool, is on her way to Father Damien's leper colony. Brave, earnest woman; she knows that she is about to doom herself to a repulsive life among pariahs whose only business is to await a loathsome death. "I am," she said to a friend recently, "not seeking notoriety or reward, only the spiritual comfort of doing for these dying creatures what their terrible disease keeps other people from doing."

Dr. J. W. Washburn has been appointed to take charge of the new department of bacteriology at Guy's Hospital. Sir William Jenner is reported to be still far from well. It is understood that in the event of his resigning his office at court he will most probably be succeeded by Dr. Russell Reynolds, who is now physician to the household.

G. O. M.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Meeting of the New York Academy of Medicine—Paper by Dr. T. Gaillard Thomas, on Mania and Melancholia following Gynecological Operations—Six Cases reported.

One of the largest audiences of the season assembled at the first meeting of the Academy of Medicine, in April, to hear a paper by Dr. T. Gaillard Thomas on *Acute Mania and Melancholia or Sequelæ of Gynecological Operations*. The object of the paper, he said, was to place on record what he thought must be a rather remarkable experience as regards the matters in question. He desired to call attention at the outset to the fact that he did not announce these peculiar and alarming states as complications, or necessarily as results of operative procedure, but merely as sequels, which might or might not, be dependent upon it. Further, in this connection, he wished to disclaim the position that the operations performed for the relief of diseases peculiar to women are especially liable to such sequences; although all his personal experience was limited to this particular field.

Having defined his idea of the conditions entitled acute mania and acute melancholia, he stated that he would relate six illustrative cases. Out of these, he said, four were violent, and showed great mental exaltation throughout, while two were melancholic in their development; but they were acutely, violently melancholic, bustling about wringing their hands in their very distress, and after a short illness they died, as did two of the four who presented symptoms of pure exaltation.

Case 1.—Mary M., æt. 21, single, by occupation a cook, had noticed during the year before she was seen an abdominal enlargement which had steadily and rapidly increased. She had emaciated very rapidly, and was at the time she came under observation extremely weak and low spirited, and now felt that unless relieved very soon she would die from exhaustion. Physical examination revealed a large accumulation of fluid in the peritoneum, and, in addition, a round tumor occupying the whole of the left side of the abdomen. Although the case was not looked upon as a favorable one for operation, it was determined that, since extirpation of the tumor offered the only chance for the saving of life, it should be resorted to. The operation was accordingly performed, and the patient rallied well after it. She was fed upon liquid diet, and quieted by the administration of opium. Nothing existed to excite alarm, except her extreme nervous depression, and with the exception of this symptom

she appeared to be progressing favorably until the seventh night. Then she seemed more than usually nervous and excitable, and desired to see the priest, who was accordingly sent for. On visiting her early on the morning of the eighth day Dr. Thomas found that a great change had come over the patient during the night. Her eyes were wild and haggard, her face maniacal, her tongue red and dry, and she constantly talked in an incoherent and violent manner, like a woman suffering from puerperal mania. As he entered the room she covered her face with the bed-clothes and screamed out that he had leagued with the priest to murder her. Her pulse was now 160, and she remained in the same maniacal state until evening, when she sunk into coma and died. No post-mortem could be obtained.

At the time of this patient's death, now exactly twenty years ago, he regarded the condition which destroyed her life as one of acute septicæmia, a pathological factor which was then only just coming into notice, and one of which almost nothing was known. His subsequent experience with septicæmia, however, had convinced him that he was in error in this hypothesis. This case was by far the most rapid that he has ever met with. Its acute stage could not have lasted more than thirty-six or forty hours, while its prodromic, or melancholic, stage had existed ever since the operation. It was in all probability that mental state which made the patient constantly persist, as she did, in the assertion that her death was certain. An examination of the membranes of the brain, he thought, would have been most interesting in this case if an autopsy could have been obtained.

Case 2.—Mrs. X., a wealthy and fashionable lady, came under his care on account of severe suffering at her menstrual periods. She was 35 years of age, the mother of four children, and a stout, well-made woman. Her health was perfectly good, except that as her menstrual periods approached she would begin to suffer such intolerable neuralgic pain in the region of the ovaries that her life was rendered wretched. After consultation with two of the most eminent general practitioners of the city, the ovaries were removed. She recovered rapidly from the operation, but at the end of three weeks a low grade of melancholia developed, which soon took the form of violent acute mania, marked by tendency to strike her attendants. Her violence rendered it necessary to remove her to a lunatic asylum, and here she remained for four or five months, entirely insane. She then recovered and returned to her home and after the lapse of six or eight years is still perfectly well.

Case 3.—A Jewess, multipara, æt. 35 years, entered Dr. Thomas's service at the Woman's Hospital, and was submitted to the operation of perineorrhaphy. There was nothing peculiar in

this operation as to severity or any other feature, and after it she did perfectly well until the ninth day, when the sutures were removed. At that time she became violently maniacal; talking constantly, jumping out of bed, throwing her arms about, and berating her attendants in strong, though not absolutely improper, language. It proved so utterly impossible to control her that a straight-jacket had to be applied. The patient raved violently for four days, and then sank into a comatose condition and died.

Case 4.—Mrs. R., a multipara, æt. 42 years, who for years suffered from retroflexion of the uterus, which was marked by profuse menstruation, came to him from Liverpool, England, for the repair of a badly lacerated cervix. The operation was performed at his private hospital, and presented no peculiar features. The patient's manner was noticed to be somewhat odd, and after the removal of the sutures, on the ninth day, she told him that in a few days she wanted to have a private conversation with him about a terrible crime which she had committed some years before, and the memory of which had ever since filled her with remorse. Two weeks after the operation the patient left the hospital; but after remaining away for a fortnight she was brought back suffering from acute melancholia. She was constantly depressed on account of remorse for a supposed crime, would sit silent for hours, and would then get up and pace the room slowly and solemnly, wringing her hands, weeping, and bemoaning her sad lot. She continued in this state, in the meanwhile gradually growing weaker, for ten days, when she became comatose and died. Uncontrollable insomnia was one of the most marked features of the case.

Case 5.—Mrs. C., a multipara, æt. 65 years, was submitted by Dr. Thomas in his private hospital to amputation of the breast. Even before the operation she seemed to be a flighty and eccentric person, but after it all her symptoms were intensified. On the ninth day the sutures were removed, and from this date the patient became gradually depressed, was sure that she could not recover, and wept almost constantly. She suffered during the earlier part of her illness from insomnia, and continued to do so until the symptoms of coma began to show themselves. The state of acute melancholia advanced until she refused all nourishment, and for a time she was sustained entirely by rectal alimentation. This patient lived for about two weeks after the breaking out of the attack, and then slowly passed into coma and died. Towards the close of the case the urine became albuminous and presented hyaline casts.

Case 6.—Mrs. M., a widow over 60 years of age, who had in early life borne several children, entered his private hospital to have a cancerous breast removed. Even before the operation her

somewhat peculiar manner excited attention, but it was not suspected that she suffered from any real mental aberration. About a week after the operation she began to grow noisy and irritable, and by the ninth day, when the sutures were removed, she was at times, chiefly during the night, absolutely maniacal. Then periods of perfect calm and lucidity of intellect would occur, and last for hours. At the end of three weeks from the time of operation, partly in consequence of her earnest desire, partly because it was thought a change of scene would benefit her, she was allowed to return home. Here in a few days violent mania developed, and at the present time she is still insane.

Having concluded his narration of cases, Dr. Thomas stated that there was very little literature extant upon this subject, which, until recently, had attracted no attention. Prior to the year 1887 there was nothing. During that year Dr. Edward J. Ill, of Newark, N. J., published an interesting pamphlet entitled "Acute Psychoses following Gynecological Operations," which embodied his own experience and that of some German physicians. In it he collated the records of ten cases in which acute mental aberration followed gynecological operations. Of these three occurred in his own practice. The first was a case of acute mania following ovariectomy, the second one of melancholia following ovariectomy, and the third was one of melancholia following a minor operation upon the bladder. All recovered. The reports of the seven cases which followed are all drawn forth by the discussion excited by a paper read by Graube before the Berlin Gynecological Society, in 1887. One case reported by Graube occurred after perineorrhaphy, performed by Paul Ruge, and was entitled, by the reporter, a case of hypochondriasis. The second case was reported by Durelius as following amputation of the cervix. Czempin reported five cases of acute insanity which occurred at Dr. H. Martin's hospital. Of these, two followed excision of the rectum for carcinoma, one, an operation for prolapse of the uterus, one, an excision of hæmorrhoids, and one, an ovariectomy, which ended fatally on the tenth day; the mania being the cause of death. In the same year Guanck reported a case of severe melancholia following simple perineorrhaphy.

In 1888 Werth, of Kiel, read a paper on this subject before the German Gynecological Society, at Halle, in which he stated that in 300 operations on the female genital tract, he had in six instances observed psychical disturbances, due to the operation. In two cases the operation was total extirpation of the ovaries; in two, removal of the ovaries, and in two, ovariectomy. One patient was violently excited before the operation. In five cases the mental disturbance took the form of melancholia, and in one, of mania. In one case the psychosis appeared five days after

operation, in one, eight days after, and in one, three weeks after; while in the remaining two cases it developed after the patients had been discharged. Of the six cases, three recovered, one after fifteen days, one after four months, and one after eight months. In two of the other cases there was no improvement, and the third patient committed suicide three and one-half months after the operation. The result could not be referred to iodoform poisoning, as the drug was used sparingly or not at all. Sanger, in discussing this paper, said that he recalled several cases in which cerebral symptoms had developed after gynecological operations. In two instances these were clearly referable to iodoform; though little was used on the dressings. In spite of the facts stated, however, he believed that patients with pelvic troubles having a tendency to psychosis should be treated in the same manner as other women.

In an article by Fillebroun, of Hamburg, published in the *American Journal of Obstetrics* for January, 1889, the author mentioned three cases of mental disturbance following gynecological operations observed by Prochowick, of that place. In two cases of melancholia improvement was very slow, while in the third case, which was one of violent mania developing three months after operation, the patient entirely recovered.

Dr. Thomas then went on to say that in four out of his six cases there was evidence of eccentricity even before operation, and in two of these four it was quite marked at times. In all the cases except one there were distinct prodromic symptoms following operation, and antedating by some days the formal outburst. In none of the cases could he discover evidences of hereditary tendency to insanity. Out of the six, four died, one completely recovered, and one was still in progress. In all the cases except one the renal secretion was carefully watched, and in none did the kidneys appear to be factors in the mental state. In four not a particle of iodoform was used at any time, and in the other two this drug was used, according to his custom, very cautiously and entirely on the line of cutaneous union, where absorption is next to impossible. He also felt very confident that none of his cases were instances of sudden and severe septicæmia marked by delirium.

It would be seen, he continued, that when his cases were added to those reported by others twenty-six instances of acute mental aberration following upon the performance of gynecological operations, were now placed on record. In concluding, he said that the following questions had suggested themselves to his mind in connection with this subject:

1. Were these twenty-six cases of mania and melancholia really due to the operations which immediately antedated them, or did they follow as mere coincident states, *post hoc, sed non propter hoc?*

2. Any great mental strain may be followed by mania. Is it at all remarkable that in the vast number of gynecological operations which have been performed during the last quarter of a century, in America and Germany, twenty-six cases of this malady should have occurred?

3. If the mania which followed operative procedures in these twenty-six cases was a consequence of them, how in the future is a tendency to the accident to be avoided?

4. Are the operations of gynecology any more likely than other surgical procedures, to disturb the condition of the mind?

P. B. P.

An Honorarium Well Merited.

Dear Sir:—The enclosed slip is such a rare compliment paid to one of our profession that I think it deserves notice. It is as follows:

Be it ordained by the Municipal Assembly of the City of St. Louis, as follows:

SECTION 1. The sum of five hundred dollars is hereby appropriated from the fund to pay Dr. A. C. Bernays for medical attendance on Murty O'Sullivan, a member of the police force, from June to September, 1888, who was injured in discharge of police duty on June 26, 1888, and the Auditor is directed to draw his warrant on the Treasurer for the above amount and deliver the same to Dr. A. C. Bernays, taking his receipt in full.

SECTION 2. There is hereby appropriated and set apart out of municipal revenue to pay Dr. A. C. Bernays the sum of five hundred dollars.

Approved March 30, 1889.

The municipal assemblies of a large city pass an ordinance to pay a doctor \$500 for a successful surgical operation on a policeman who was shot in the abdomen while attempting to make an arrest. The stomach, abdomen and jejunum required to be sutured. The laparotomy was done a few hours after the accident. Truly the world is getting better, and our profession is being recognized by a city assembly.

Respectfully,

W. W. KINGSBURY, M.D.

St. Louis, April 17, 1889.

NECROLOGY.

Samuel W. Gross, M.D.

Samuel W. Gross, M.D., Philadelphia, Pa., Professor of Surgery in the Jefferson Medical College, died on Tuesday the 16th inst., at the age of 52 years. He was a son of the late Samuel D. Gross, so long at the head of the surgical profession in this country, and was born in Cincinnati, O., while his father was occupying the chair of Pathological Anatomy in the Medical College of Ohio. He was educated in Shelby College, Ky., and graduated in medicine at Jefferson Medical College, Philadelphia, in 1857. He entered directly upon the practice of his profession in the last-named city. He served as Brigade Surgeon and Major of Volunteers through the Civil War,

and was brevetted Lieutenant-Colonel at its close.

He has made several valuable contributions to medical literature, for the most part on surgical subjects. Perhaps his "Practical Treatise on Tumors of the Mammary Gland" contributed more to enhance his reputation as a writer than any other. Although he had filled the chair of Surgery only since his father's death in 1884, he had earned a good reputation as a didactic and clinical teacher. His death came unexpected, in the vigorous period of manhood.

BOOK REVIEWS.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. By ARTHUR VAN HARTLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Clinical Lecturer on Dermatology in the Jefferson Medical College. Second Edition, Enlarged and Revised, with additional Plates and Illustrations. Philadelphia: P. Blakiston, Son and Co. 1889.

This is a neatly published octavo volume of 410 pages, designed by the author as a plain treatise on the diagnosis and treatment of the various diseases of the skin, such as would be most useful to the general practitioner. The issue of a second edition with important additions is sufficient evidence that the work has met the approval of the profession.

A CLINICAL ATLAS OF VENEREAL AND SKIN DISEASES; including Diagnosis, Prognosis and Treatment. By ROBERT W. TAYLOR, A.M., M.D. 192 Figures, 58 Colored Plates. Parts V and VI. Philadelphia: Lea Bros. and Co.

The earlier fasciculi of this work have been already noticed. These maintain the standard of excellence of the others. The plates are exceedingly good. The subjects illustrated in these numbers are Urticaria, Pemphigus, *Tinia Tricophytina* Barbæ, *Tinia Circinata*, Ecthyma, Lupus Erythematosus, Herpes Zoster, Pediculosis, Erythema, Erythema Circinatum, *Tinia Versicolor*, *Tinia Tonsurans*, Pityriasis Rubra, Dermatitis Exfoliativa, Impetigo Herpetiformis.

MISCELLANY.

AN INTERNATIONAL CONGRESS OF OTOLGY AND LARYNGOLOGY will be held in Paris from the 16th to the 21st of September, 1889. Professor Duplay is President of the Committee on Organization, and Dr. Lœwenberg, rue Auber, 15, à Paris, Secretary, to whom all communications should be addressed.

STATE MEDICAL SOCIETY OF ARKANSAS.—The Fourteenth Annual Session of this Society will be held at Pine Bluff, commencing on Tuesday morning, May 28,

1889, and continue three days. A full attendance and a profitable meeting is expected. For further information apply to L. P. Gibson, M.D., Secretary, Little Rock, Ark.

AMERICAN CLIMATOLOGICAL ASSOCIATION.—The next annual meeting of this Association will be held in Boston, June 24th and 25th, 1889, just prior to the meeting of the American Medical Association at Newport. Dr. V. Y. Bowditch, of Boston, President. An interesting series of papers have been secured and the meeting promises to be a very successful one.

ILLINOIS STATE MEDICAL SOCIETY.—The Local Secretary at Jacksonville, Dr. T. M. Cullimore, informs us that the list of railroad companies named below have agreed to carry delegates at reduced rates to the meeting of the Illinois State Medical Society to be held in Jacksonville, May 21st to 23d. The rate will be one and one-third fare, on the certificate plan. Delegates must consult local agents for instructions as to procuring certificates, and certificates must be countersigned by Local Secretary. Chicago & Alton; Chicago & Northwestern; Chicago, Burlington & Northern; Chicago, Burlington & Quincy; Chicago, Milwaukee & St. Paul; Chicago, Rock Island & Pacific; Chicago, St. Paul & Kansas; Chicago, Santa Fe & California; Illinois Central; Rock Island & Peoria; Wisconsin Central Lines; Wabash; and Jacksonville Southeastern.

IOWA STATE MEDICAL SOCIETY.—The Iowa State Medical Society will meet this year at Keokuk, on May 15th, and will continue in session three days. President, Donald Macrae, M.D.; Secretary, S. S. Lytle, M.D.

The American Association for the Advancement of Science meets at Toronto, Canada, August 27, and will remain in session until September 3, inclusive.

PAMPHLETS RECEIVED.

Adams, Samuel S., Washington, D. C. *Hernia of the Pregnant Uterus*. Reprint from the Amer. Journal of Obstetrics and Diseases of Women and Children.

Brown, Dillon, M.D., New York City. *Intubation of the Larynx in Diphtheritic Croup*. Reprint from the New York Medical Journal.

Eliot, Llewellyn, M.D., Washington, D. C. *The Resuscitation of Asphyxiated Newborn Infants by the Suspension Method*. Reprint from Transactions, Vol. I, 1888.

O'Dwyer, Joseph, M.D., New York City. *Intubation in Chronic Stenosis of the Larynx, with a Report of Five Cases*. Reprint from the New York Medical Journal.

Rauch, John H., M.D., Springfield, Ill. *Preliminary Report to the Illinois State Board of Health. Water Supplies of Illinois and the Pollution of its Streams*.

Shrady, John, M.D., New York County. *Address on Medicine—Medical New York in 1800*. Reprint from Transactions of the New York State Medical Association, 1889.

Wyman, Hal. C., M.S., M.D., Detroit, Mich. *Emergency Hospitals*.

LETTERS RECEIVED.

Dr. Herbert E. Smith, New Haven, Conn.; Dr. Paul Bercus, Odell, Ind.; Dr. H. J. Holke, Mascoutah, Ill.; Dr. H. K. Givens, Fayette, Mo.; Dr. J. T. Crowe, Carrollton, Ill.; Dr. R. J. Dunglison, Philadelphia; Battle & Co., St. Louis; Dr. G. T. McCoy, Columbus, Ind.; Dr. J. B. Murdoch, Pittsburgh, Pa.; Dr. Wm. F. Waugh, Philadelphia, Dr. S. N. Nelson, Boston; Dr. G. L. Magruder, Washington; Mitchell & Maury, Memphis, Tenn.; Mellier Drug Co., St. Louis; Dr. J. W. Powers, Hudson, Ia.; J. H. Chambers & Co., St. Louis; J. D. Larkin & Co., Buffalo, N. Y.; H. P. Hubbard Co., New Haven, Conn.; Rush Medical College, Chicago; Henry Schwindt, New York;

G. P. Pollard, Burlington, Vt.; Fairchild Bros. & Foster, New York; Dr. E. Allen, Athens, Pa.; Dr. Thomas Opie, Baltimore, Md.; J. Walter Thompson, New York; A. B. Stone, Washington; Dr. W. C. Owen, Newburg, Mo.; Edwin W. Ashford, Washington; A. B. Biggs, Louisville, Ky.; Dr. J. M. Fort, Paris, Tex.; Thos. Leeming & Co., New York; Dr. B. St. John Roosa, New York; M. Lanza, Howard Challen, New York; Redington & Co., San Francisco; T. J. Hackett, Milton, Quebec; Parke, Davis & Co., Detroit; Cincinnati Sanitarium; Dr. F. R. Percival, Ft. Hamilton, N. Y.; F. R. Goff, Burlington, Vt.; Chas. H. Phillips Chemical Co., New York; Dr. E. T. Schrider, Alvordton, O.; P. W. Bushong, A. E. Walesby, Louisville, Ky.; Dr. John M. Dodson, Chicago; Dr. D. Dedolph, St. Paul, Minn.; Dr. A. C. Worden, Detroit, Mich.; Dr. P. H. Bailhache, San Francisco; Dr. Anderson, New York; A. H. Roffe & Co., Boston; Lutz & Movius, New York; W. H. Woodworth, Millfield, O.; H. Planten & Son, New York; Dr. J. H. Thornton, Lansing, Ia.; Dr. H. V. Würdeman, Washington; Lea Brothers & Co., Philadelphia; E. Fougere & Co., New York; Publishers Commercial Union, Chicago; Philadelphia Polyclinic; F. A. Davis, Porter & Coates, Philadelphia; Thos. F. Goode, Buffalo Lithia Springs, Va.; Dauchy & Co., New York; Dr. Clayton Parkhill, Denver, Col.; The Aquidneck, Newport, R. I.; Dr. T. J. Hutton, Millington, Ill.; Dr. W. T. Eckley, Harper, Ia.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 13, 1889, to April 19, 1889.

Major John W. Williams, Surgeon U. S. Army, died at Jackson Bks., La., April 15, at 5 o'clock p.m.

Major John C. G. Happersett, Surgeon U. S. Army, is relieved from duty at Willet's Point, N. Y., and ordered to report to the commanding officer, Atlanta Bks., Ga., for duty as Post Surgeon at that post. Par. 12, S. O. 88, A. G. O., April 16, 1889.

First Lieut. Charles E. Woodruff, Asst. Surgeon U. S. Army, is relieved from duty at Ft. Mackinac, Mich., and ordered to Ft. Gaston, Cal., for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Lieut.-Col. James C. McKee, leave of absence granted in S. O. 44, A. G. O., February 21, 1889, is extended seven days. Par. 11, S. O. 86, A. G. O., April 13, 1889.

Capt. Adrian S. Polhemus, Asst. Surgeon U. S. Army, is relieved from duty at Ft. Gaston, Cal., and ordered to Ft. Monroe, Va., for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Major Clarence Ewen, Surgeon U. S. Army, promoted Surgeon U. S. Army, with rank of Major to take effect April 15, 1889.

Capt. Aaron H. Appel, Asst. Surgeon U. S. Army, is granted leave of absence for twenty-one days. Par. 1, S. O. 38, Hdqrs. Div. of the Missouri, April 16, 1889.

Hdqrs. Dept. of Dakota, St. Paul, Minn., April 8, 1889. Special Order No. 35: Under authority from the Secretary of War conveyed by letter of the 16th ult. from Division Headquarters, the post of Ft. Sisseton, Dak., will be discontinued June 1, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 20, 1889.

P. A. Surgeon James C. Byrnes, detached from special duty at Norfolk, Va., and to the "Chicago."

P. A. Surgeon A. C. Heffenger, granted leave of absence for six months, with permission to leave the United States.

P. A. Surgeon Philip Leach, leave of absence extended six months, with permission to remain abroad.

Asst. Surgeon C. H. T. Lowndes, ordered to Naval Academy, Annapolis, Md.

Asst. Surgeon A. M. D. McCormick, detached from the "Vermont" and ordered to the "Chicago."

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CHICAGO, MAY 4, 1889.

No. 18.

ORIGINAL ARTICLES.

THE REMEDY FOR OVERCROWDING IN
THE MEDICAL PROFESSION.

Read before the St. Clair County (Ills.) Medical Society, Dec. 6, 1888.

BY BOYD CORNICK, M.D.,
OF MASCOUTAH, ILL.

That the medical profession is overcrowded, is a fact of the gravest import, recognized by physicians everywhere. The lamented Dr. Garnett, in his address as President of the American Medical Association, devoted his entire paper to an earnest and able discussion of this evil, and to suggestions for its abatement. State associations, district and county societies, current medical periodicals and individual physicians, both here and abroad, are manifesting the liveliest concern in the solution of the problem, which is everywhere increasing in importance.

Before proceeding to discuss remedial measures for a recognized evil, let us first consider the essential nature of the disease which we wish to combat. What constitutes an overcrowding in the ranks of the medical profession? How large may be the ratio of physicians to total population without exceeding a reasonable and natural proportion?

We know that in the United States there are more doctors to the 10,000 of general population than in any other country in the world; and yet it may reasonably be doubted if the average income received by American physicians is less than that enjoyed by medical men abroad. On the contrary, it seems to be a well ascertained fact that the average, both of medical fees and of the incomes of medical practitioners in this country, exceeds that prevailing in any other country on the globe. And the cause of this is not far to seek. The average prosperity of the whole people of this country exceeds that of any other people in the world; and doctors, like all other citizens who labor for a livelihood, receive their proportionate share of the prosperity or poverty of the particular country in which they live. In Great Britain there are fewer doctors to the 10,000 of total population than with us, and on the continent of Europe a still smaller ratio, yet this fact does

not give the average medical practitioner abroad any advantage in point of professional income, over his American brother. For, though his patients be more numerous, yet the poverty of the masses of the people, among whom he practices his profession, compels him to accept lower fees and a smaller total income.

It is manifest, therefore, that where prosperity prevails among the people a larger proportionate number of physicians may enjoy comfortable incomes than where the people are steeped in poverty. Were *all* the citizens of the United States sufficiently prosperous to be able to pay reasonable fees for medical services, who could then say that we have too many doctors? But if our citizens, on the contrary, were as largely sunken in the depths of poverty as are the masses of the people on the continent of Europe, who could then deny that the American medical profession would be overcrowded, even though half its number were blotted out of existence within twenty-four hours? For the sake of argument imagine nine-tenths of the citizens of this country to be in the possession of incomes sufficiently ample to purchase the satisfaction of all the material desires incident to modern civilization, and he would be a bold man who should then declare the medical profession to be overcrowded, even were the existing ratio of physicians to general population in the United States doubled, trebled or, indeed, quadrupled.

The criterion, then, by which we may determine when the profession is overcrowded, is not alone the ratio of physicians to total population, but this ratio *taken in connection with the degree of poverty or of prosperity prevailing among the masses*. Bearing this conclusion in mind, we are now in position to consider the remedies which have been offered for the abatement of the universally recognized evil, which is now everywhere under discussion.

Many plans have been proposed for remedying the evil, and many have been tested; but none has yet been presented which on trial has proved to be efficacious. So far as I have observed, every plan which has hitherto been recommended has for its first aim such extension of the course of medical study preliminary to acquiring a diploma, and such elevation of the standard of ex-

aminations prerequisite to securing a license to practice, as would be calculated to deter many medical students of limited financial resources from entering on so difficult and expensive a pursuit; and induce them rather to choose some easier and cheaper, though possibly even more overcrowded avenue, than the practice of medicine, in which to seek honor, reputation and a livelihood.

But if stringent laws, regulating the course of study and the qualifications for practice, could solve the problem of an overcrowded profession, then Germany would have settled the matter long ago. Such laws do accomplish one desirable end which is good in itself; and that is, they elevate the standard of knowledge requisite to entering on the grave responsibilities of medical practice. And, in so far as they do this, they are highly to be commended. But restrictive laws and regulations, in so far as they are designed to prevent the evil of overcrowding in the ranks of the profession, "have" so far, to quote the language used by President Garnett, with reference to the less stringent regulations hitherto in operation in the United States, "proved conspicuously futile." And, in the humble opinion of your essayist, restrictive laws of all kinds must, in the nature of things, continue to prove conspicuously futile to the end of time.

Why is it that there is an "almost universal desire prevailing among the working classes to become doctors and lawyers?" Why is it that "the professions of law and medicine are overcrowded?" That the statements, as made by the late President Garnett, are hardly overdrawn, will be admitted on every hand. There must be a cause for this condition of things, as there is for every other ill from which humanity suffers. And it is a rational step for medical men to seek first the cause of an evil which so vitally affects themselves, before resorting further to empirical remedies which have always hitherto proved so "conspicuously futile" in affording relief. For if an efficient cause can be found for this condition which confronts us, and if this cause can be removed, then the disease will disappear, and our problem will have received a solution at last.

That "men seek to gratify their desires with the least exertion" is a fundamental law of human nature dominating every human being. And this law has no exceptions; for should at any time an apparent exception be noted, it will on investigation, like the apparent exceptions to the physical law of gravity, but prove how invariable is the rule. If, then, the assertion that "an almost universal inclination prevails among the working classes to become doctors and lawyers" be true, or indeed but half true, it is for the simplest reason in the world, viz: Because energetic and quick-witted young men in the ranks of the working classes can, by becoming doctors and

lawyers, gratify their desires with less exertion than they would be compelled to put forth in such other pursuits and avocations as are open to them. And just as long as society is constituted as it now is, so that a given *quantum* of exertion devoted to the study and practice of medicine yields, or promises to yield, larger returns than in some other avocations, *so long will the present tendency continue* for men to gravitate from other avenues of gaining repute, respectability and a livelihood into "the business of doctoring"—I trust I may be pardoned the expression.

Germany is probably excelled by no other government in the world in the stringency of its laws regulating admission to the ranks of the medical profession. Not only is the preliminary course of study long and arduous, not only must each aspirant have passed through every successive grade of prescribed preparatory instruction, not only must he have secured the endorsement of some noble university, justly famed for the high standard of learning which its degrees imply; not alone must the aspiring youth devote many years of time and many hundreds of *thalers* to a completion of the course marked out for him by the authority of the State; but in addition to all this, even though the possessor of a university degree, he must finally pass a rigid and awe-inspiring *Staats-examen* before a government licensing board; and then, if successful in this latest ordeal, he is permitted to practice medicine within the confines of the German Empire.

As a consequence of all these stringent requirements, the medical profession of Germany leads the vanguard in the world-wide march of progress in the medical sciences. Such results certainly justify the high standard of qualification requisite for entrance into the medical profession of Germany. But, alas! even in that favored land, whose laws regulating the practice of medicine are exceeded in stringency by those of probably no other government under the sun, we are confronted with the same problem of an overcrowded medical profession, which is harrassing the minds of medical men throughout the confines of our civilization. For, as with us so also in Germany, the same widespread inclination prevails among the working classes to become doctors and lawyers. And, in spite of the highest degree of restrictive legislation which may be deemed possible or even desirable, the ranks of the learned professions are in Germany even more overcrowded than with us, if we may take as a criterion the relative fees and the average professional incomes prevailing in the two countries respectively.

The explanation of this is simple and the cause is not difficult to find. As in the United States, so also in Germany, men seek to gratify their desires with the least exertion. It requires far more exertion in Germany to obtain a license to prac-

tice medicine than is requisite in the United States, *but it is also far more difficult there than with us to earn a living in every other avocation.* And the proposition holds good for Germany, as it does also throughout the civilized world, that, as it becomes increasingly difficult for the average man of average intelligence to earn a satisfactory livelihood in all other avocations, he will lightly turn to the thought of "doctoring," with a view to bettering his condition. And it must in the future continue to be as invariably true as it now is, that so long as "the working classes" find it relatively more irksome and laborious to secure the gratification of their desires in other avocations than in the practice of medicine, so long will they persist in overcrowding the medical profession. Laws requiring of students the expenditure of more time and the outlay of greater effort than are now necessary to the acquirement of a license to practice medicine, should undoubtedly be enacted in our country also; because more stringent laws in this direction are manifestly needed in order to elevate the existing standards of qualification for medical practice. But, if I correctly apprehend the drift of the argument put forth in the address of President Garnett, *such laws, if only stringent enough, are also expected to solve the problem under discussion,* and to check the recognized tendency of the working classes to become doctors, by requiring of them *so great exertion* in the attainment of their object as to make them rather content with some other pursuit, less remunerative may be, but also far less burdensome to follow.

Restrictive legislation will not solve this problem. Its solution lies not in restriction but in freedom—freedom on the part of the working classes (including doctors) to produce wealth and secure the satisfactions of their desires by equal privilege of access to the bounties of nature. Let us beware of advocating restrictive legislation of such character as may be calculated to invite public hostility to the medical profession. Let us avoid the suspicion of seeking to build up a close trades-union, a medical guild, a professional trust, a close corporation—seeking our own advantage (it is suspected) at the expense of the public at large. Laws operating in this direction do not, and cannot, afford a solution of the problem, but rather retard its solution. The remedy which we are seeking does not consist in making it *more difficult* for "the working classes" to become doctors, *but in making it less difficult to earn an honest living in all other avocations.*

Whenever our existing taxing laws, which now levy a fine on every product of labor, and which by fining, also restrict every form of wealth production—thereby promoting the poverty of "the working classes" (including doctors)—shall be so amended as to take by taxation for public purposes those values, and those values only, which

pertain to land, irrespective of improvements; and which, being produced by the whole community, should rightfully belong to the people at large; then will every form of wealth production be unfettered, and every citizen be at liberty to earn a living by applying his labor, on equal terms with every other citizen, to nature's inexhaustible store-house of raw materials. And since the power of labor, in transmuting raw materials into wealth, has, in our own generation, been multiplied a thousand-fold by the aid of steam engines and labor-saving machinery; and because nature is lavish of her bounty, and all forms of raw material are practically inexhaustible; it follows that, if all men secure equal privilege of access to nature's inexhaustible stores, the production of wealth in all its forms will be practically limited only by the complete satisfaction of every material desire of the human heart, and the wildest dreams of avarice be more than realized, to the practical benefit of the entire human family without exception. Under such a system of taxing laws involuntary poverty will of necessity be abolished, and every man will be free and untrammelled in earning a livelihood in whatever avocation promises to secure the satisfaction of his desires with the least possible exertion.

And when this practical and far-reaching reform shall have been accomplished, by virtue of a simple change in our existing taxing laws, as I have faith to believe it shortly will be, men will not be tempted to overcrowd the medical profession, at the cost of years of irksome preparatory labor, unless they are constrained to do so by higher and nobler motives than *simply* to gratify their desires with the least exertion. And the enhanced general standard of comfort, and increased ease of earning a livelihood then prevailing among the people at large, when the existing barriers to profitable employment in other avocations shall have all been swept away, will react favorably upon the medical profession also; not only by removing the present incentives to study medicine on the part of those who are better fitted by nature for other pursuits, but by enabling many hundreds of thousands of honest men to pay adequate fees to their family physicians for services rendered, instead of, as now, seeking medical charity for very poverty's sake at some free dispensary.

Then will our problem be finally solved. But a new one of opposite tenor will spring up, a solution of which which will be called for, not by the medical profession, but by the public at large. The problem will then read, not "How shall we prevent unlearned men from gravitating toward the learned professions?" but rather "How shall the pecuniary reward be made sufficiently great, to induce men of talent to devote the years of time and labor needed to qualify them to enter upon the laborious and responsible professions of law and medicine?"

THE TREATMENT OF PELVIC INFLAMMATIONS.

Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Dec. 12, 1888.

BY M. ROSENWASSER, M.D.,
OF CLEVELAND, OHIO.

In the management of cases of chronic pelvic inflammation the accurate diagnosis is a highly essential element, without which the practitioner is entirely at a loss to know what to do and what to leave undone. The differentiation between the various conditions apparently identical to the touch requires a careful review of the history and symptoms, and experienced tactile sense and frequently repeated examinations at various intervals. If a careful examination were made under anæsthesia, in the exaggerated lithotomy position, whenever the diagnosis was not sufficiently clear, many false conclusions could be eliminated. There would then be fewer cases of pelvic exndations treated as uterine displacements by the use of the sound and pessary: the number of uterine fibroids, so gracefully and rapidly dispersed by electrolysis would in a degree diminish, and pelvic cellulitis would be relegated to its proper place in pathology as a phlegmonous inflammation.

If there is any disease in which a difference in treatment based on the social condition of the patient is allowable, it is in these pelvic troubles. The washwoman, the cook, the shop-girl, the seamstress, in short, women dependent for support on their own earnings, will consent to any operative proceeding which promises them speedy relief and the early resumption of the work which alone protects them against a pauper's lot. In these instances the early operation is a boon, and the long-drawn-out treatment under adverse circumstances, an unwarranted makeshift. On the other hand, patients whose resources enable them to carry out strictly the demands of a palliative treatment ought to be made acquainted with this alternative before counselling radical measures, except where such measures are vitally indicated. While many of this class of patients are rendered comfortable from time to time by palliative treatment, and an exceptionally few may be permanently cured, it is to be regretted that some authors, through reports of incomplete cases, mislead the practitioner into the belief that the majority of such cases are curable without resort to surgical interference; that the hot douche, the supporting tampon, the application of iodine, and especially the use of galvanism, are the means by which the congestions are relieved, the adhesions softened and finally absorbed, the displacement rendered accessible to correction, in fact, the patient completely restored to health.

My own experience does not fully agree with this roseate view. The following cases, whose histories will be alluded to in outline only, are

without doubt representative of numerous similar cases under the care of other physicians. They have one characteristic in common, and that is, their long duration, which renders them so much the more typical of the class now under discussion.

Case 1.—Age 30. Married seven years. Mother of one child 6 years old. Consulted me a few months after confinement. Complained of nervous disturbances, severe backache and great weakness, partly due to semi-monthly recurrent menorrhagia. Examination revealed a subinvolved, retroverted uterus with chronic endometritis. The application of iodized phenol and the retention of the uterus in its proper position by a hard rubber pessary relieved the patient. In an unguarded moment, a brood of bacteria found access into the pelvis, causing a subacute pelvic peritonitis. When the patient recovered after an illness lasting four months, we (Dr. G. C. E. Weber being my consultant) found retroverted uterus bound by adhesion, and the ovaries large and exceedingly tender. After the uterus had been freed and replaced, the shortened uterosacral ligaments could be felt as sharp, rigid bands, raising the vaginal vault in corresponding folds. The continuous traction and its reflex results not yielding as rapidly as the patient had hoped, she consulted Dr. T. G. Thomas, of New York, and remained at his private hospital for six weeks, where she underwent some local but mainly general constitutional treatment. She returned improved, but still ailing; she finally became pregnant, and was confined last July. She is now in better health, but is still wearing a pessary, without which she is miserable, and is not yet cured. This being a case of chronic ovaritis with pelvic adhesions, of right belongs to what might be called the border-line between limited and general pelvic peritonitis, and represents the most satisfactory result obtainable by patient, non-surgical therapeutics.

Case 2.—Age 33. Married. Mother of three children, last being 4 years old. Was in good health until three years ago. Gonorrhœal infection progressively traceable from urethra and vagina to uterus and tubes, having caused a moderate pelvic peritonitis. Six weeks after recovery from acute symptoms, examination reveals, besides enlarged and tender ovaries, the presence of a round, smooth, fluctuating movable tumor of the size of a small orange, not specially tender, occupying the right side of the pelvis; examining a few days later only the thickened relaxed walls of the sac formerly filled with fluid could be felt, with increased sensitiveness of the posterior surface and fundus of the uterus. There was at no time after subsidence of the peritonitis any vaginal or uterine discharge, except her normal and moderate menstrual flow; nor was there any elevation of temperature. After the lapse of a few weeks, the tumor would refill and disappear

as before, leaving some sensitiveness posterior to the uterus as high as the fundus. Occasionally a similar tumor would form and vanish on the left side. These recurrences were not connected with the menstrual function. Dr. Weber, consultant in this case also, on one occasion accidentally burst the sac by too strong pressure, but no harm followed. There is no room for doubt that we have here an unique condition of irregular, alternating hydrosalpinx, which discharges its contents into the retro-uterine pouch. The fluid, not acrid enough to inflame, but only to irritate, gradually distends the occluded or highly constricted tube, and by the continually increasing pressure forces its way out either through a narrow angular canal or by rupture at some weak spot, which then is repaired, to be again broken when the sac is filled. The patient is still under observation and occasionally takes to her bed when she feels a new rupture has occurred. She has not been pregnant since her sickness, nor is she likely to be. Whether she will ultimately get well, or at some period require surgical assistance in case of suddenly developing peritonitis, time will tell.

Case 3.—Age 30. Married seven years. Sterile. Menstruation generally profuse. Copious leucorrhœa. Suspected infection. Three years ago, while under another physician's care, she took a severe chill; pelvic peritonitis developed, with formation of abscess in the left side of the pelvis in the course of a few weeks. The abscess burst into the bladder; before the abscess wall had collapsed Dr. Dudley P. Allen, consultant, made a counter opening from the vagina, and thus drained the abscess, which finally healed after a tedious and very painful illness. The patient has been about for a year, but is still a sufferer. There is quite a bunch of induration to the right of the uterus, besides the retracted cicatrix on the left.

Case 4.—Age 45. Married twenty-three years. Sterile. Menstruation irregular, at long intervals. For the past five years afflicted with vague pains in the pelvis and back, with considerable leucorrhœa. The uterus is enlarged, the vaginal vault tender on pressure, but no distinct tumor can be felt. Being otherwise a sufferer from chronic congestion of the liver, she has not laid much stress by her pelvic symptoms. Two years ago she was suddenly seized with violent pains, beginning in the pelvis and spreading rapidly over the entire abdomen. After recovering from the severe general peritonitis of three weeks duration, a large, hard, sensitive mass filled the retro-uterine space. Several weeks later, the patient found she was passing large quantities of offensive purulent material with each defecation. From this time forward she continued improving, but was still far from well. She made a trip to Germany with a letter to Prof. Aug. Martin, of

Berlin, submitting the case to him for operation. In his reply he confirmed the presence of pyosalpinx with communication into the bowel, but had decided first to try the effect of curetting the uterus before undertaking abdominal section. The patient had improved so decidedly upon that treatment that he discharged her as cured. On her return I found her much improved, but the mass posterior to the uterus had not disappeared. During the past summer she was on several occasions compelled to remain in bed for days, once for a fortnight, when the pelvic mass had become tender, and had rendered her unfit to be about. There has been no discharge of pus from the bowel during the past few months.

The last two cases have had a mixed treatment. The former required surgical interference to save her life, for I am convinced she would have died without drainage. I cannot understand the principle underlying Martin's treatment of the latter case. It was only palliative; for he could not expect the diseased tube to become absorbed or permanently drained, nor would the expected menopause have any influence on a pyosalpinx.

I now quote from E. H. Grandin's citation of Mundé, who completes his history of a case of pelvic peritonitis in this wise: "As soon as she was able to come to my office, I recommended the galvanism, and after about a month's treatment she was as well as ever, and was discharged last March, wearing a small, soft-rubber, Albert Smith pessary, which she thought gave her some support in walking. I gave her directions about the continuance of the galvanism, and have not heard from her since. Hence I infer that she is doing well, as she was of the kind of patients who would be sure to let me know if my treatment had not proved effectual." This to justify my assertion that incomplete cases are wrongfully reported as cured.

The results already attained by men prominent in the surgery of the pelvis warrant the belief that early operations in pyosalpinx will become the established rule; that hæmato- and hydrosalpinx must be treated according to the individual indications, expectantly or by removal, if peritonitis repeatedly threatens life or seriously impairs health. When we shall have become as familiar with the after-histories of abdominal sections for ovaritis and pelvic adhesions as we are with the natural history of this variety of pelvic peritonitis, it may become possible to differentiate cases fit for operation from those unsuitable. Such cases are too often discharged from hospitals, and completely lost sight of, when it is of the utmost importance to know what benefit finally was resultant from an operation not yet fully conceded to be justifiable.

ERYSIPELAS AND PUERPERAL FEVER.

Read before the Gynecological and Obstetrical Society of Baltimore,
February 12, 1889.

BY ROBERT T. WILSON, M.D.,
OF BALTIMORE.

GYNECOLOGIST TO THE UNION PROTESTANT INFIRMARY; ASSISTANT
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The more the study of infectious diseases rules the medicine of the present time, the more our interest is directed toward the relation which the individual diseases bear to each other. Among the infectious diseases which, according to the old ideas, are said to stand in a changeable relation to each other, are erysipelas and puerperal fever. The endeavor has been made to prove clinically the identity of both diseases by pointing to the fact that they appear simultaneously, and still further by showing that puerperal fever is said to be engendered by erysipelas, and *vice versa*, in the case of lying-in women. The views of the identity of both forms of disease are especially furthered by the opinions of Virchow that, anatomically considered, the course of certain forms of puerperal infectious diseases, especially in the cellular tissue of the pelvis, resemble, or indeed are the same, as in erysipelas. There are statements enough in existence which must make us cautious in our practice, but which are always being opposed by a number of observers, and these, though widely differing, assist in proving that there is a connection between erysipelas and septic infection. This subject, which has been treated in a great variety of ways, has made great progress in recent years through the fact that Volkmann (Pitha—Billroth's Chirurgie, Erysipelas), lays stress upon the point that erysipelas as a disease, *sui generis*, must be separated just here in the puerperium from the phlegmonous conditions—a view which has already been expressed by others (Hirsch). Hugenberger, from his experience, has endeavored to show that erysipelas in the puerperium only appeared as a dangerous complication and had nothing to do with puerperal fever. We find cases on record in which erysipelas appeared to an alarming extent in lying-in women as well as in other patients—so-called *noso-comial* erysipelas; and further, that septicæmic conditions and pyæmia have been engendered from lying-in women with erysipelas, and *vice versa*; from such lying-in women erysipelas has occurred with other sick persons or with well persons—physicians, nurses, etc.

After the appearance of Hugenberger's communications, A. Gusserow, in the spring of 1879, had under his care a large number of erysipelas cases with lying-in women, while at the same time many cases of puerperal fever appeared in the obstetrical ward of the Charité Hospital. From the course of the cases of *noso-comial* erysipelas (says Gusserow), if we are willing thus to designate the coincidence of nine cases of gen-

uine erysipelas, he (Gusserow) was thoroughly convinced that there existed no connection between puerperal sepsis and erysipelas. The discovery of Fehleisen has made an epoch in the study of erysipelas, and it involuntarily recalls to our recollection (says Gusserow), the question how far erysipelas stands in connection with septic infection in the puerperium. Since through the erysipelas coccus (says Gusserow), the specific principle of erysipelas, the peculiarity of the disease has been so beautifully proven, it seems to me (says Gusserow) that now is the time to emphasize again, from a clinical standpoint, the individuality of erysipelas in the puerperium, and to endeavor to prove that this disease has nothing in common with puerperal sepsis (*Archiv. f. Gynäk.*, vol. xxiv, part 2). Medical literature contains a sufficient number of cases with observations on the course of erysipelas in pregnant women to substantiate this view.

If erysipelas could be easily produced from a lying-in woman who has puerperal fever, the number of observations ought to be very large. But in the literature of this subject the cases on record are by no means large, and those which do exist admit of the supposition that they are not genuine erysipelas, but phlegmonous inflammation whose connection with sepsis is known *in those cases* (says Gusserow). Puerperal fever, puerperal septicæmia, may be endemic or epidemic. As the symptoms of the affection vary infinitely, so may the epidemics in their severity. Since the first epidemic at the Hotel-Dieu, recorded by Mauriceau and Lamotte, 1664, hardly a year has passed without our being able to refer to an epidemic at one or another place in the different parts of the world. While all authorities agree in regard to the application of the term puerperal fever, the theories of its origin have been innumerable, and to-day there are questions concerning it which it remains for the future to decide. The earliest theory was based on the idea of retention of the lochia, with decomposition of remnants of placenta. This theory started with Hippocrates, and was defended by Galen, Avicenne (1000), Rhodion (1532), Mercatus (1570), Michaelis (1615), Sennert (1631), Sydenham (1682), Hüter (1711), Mauriceau (1712), Burton (1751), Smellie (1752), Tissot (1795), and many others. To this theory succeeded that of the metastasis of the milk, which was first promulgated by Mercurialis and Willis, in 1662, and was advocated, in particular, by Puzos (1743), Licutand (1750), Levret (1766), Van Swieten, Deleurye (1777), and others. Autenreith formulated his theory in the beginning of this century, which is only a combination of the preceding. His theory was accepted by Schmidt-müller, Carus, Joerg, etc. Then arose the gastro-bilious theory of Trincavellus, which was advocated by Manning, Cooper, Denman, and others. The fifth theory is the phlogistic; according to

which inflammation is the cause of puerperal fever. According to the site of the inflammatory process, we may have three varieties: 1. A metritis, which may be associated with a phlebitis or a lymphangitis (Plater, 1602, Denman, Tissot, Naegelé, and others). 2. An enteritis and a peritonitis. 3. Peritonitis, pure, the view of Johnston, Hunter, Siebold, Capuron, Bandelocque, and others. Then followed the erysipelatous theory, advocated in particular by Eisenmann, and accepted by Delaroche, Bayrhafer, Gordon, Ingleby, Lee, and numerous English and American authorities; this theory considers puerperal fever an internal erysipelas.

Semmelweis, in 1847 to 1861, promulgated the following theory: Puerperal fever must always be considered as a fever due to the absorption of a decomposed animal organic matter, and, this absorption may result from *auto-infection* (the product of decomposition coming from the individual itself), or from *hetero-infection* (the product of decomposition coming from without). Puerperal fever is not, therefore, a peculiar and exclusive disease of the puerpera. An identical affection, even as has been proved by Trousseau, Schée, Helm, Buhl, Simpson, Tarnier, may be met with in virgins, in the new-born, in wounded of either sex. The point of origin of the disease is found as well in the uterine wound, and in slight superficial wounds of the genital organs, as in lesions of the peri-uterine cellular tissue, or in the vagina. The primitive local disease becomes general through the carrying of the morbid process to the cellular tissue, thus gaining in extent, or else it is transported by the lymph of the blood to all the other organs; or else foreign bodies are carried by the circulation, deposited in different organs, and there become the source of the disease.

The causes of isolated cases, that is to say, of those developing aside from all epidemic influences are:

1. Lesions and wounds of the genital organs.
2. Retention followed by alteration of portions of the placenta or of the membranes.
3. Primitive inflammation of the vagina and of the uterus, such as those caused by gonorrhœa.
4. Finally, infection of wounds of the genital organs by cadaveric emanations, purulent or gangrenous secretions, etc.

Schroeder is a resolute advocate of the theory of Semmelweis. Doléris says: To-day all authorities are in accord in considering puerperal fever as a species of poisoning. The most resolute localists have renounced the view that the disease resides in the lesion itself. The recent investigations of Championnière, Siredey, Quinquand, Fioupe, Despine, Bode, plead in favor of the absolute similarity of puerperal and of surgical infection. This is the doctrine held in France, and the one stated by Winckel (1878). It is the doctrine admitted *almost* uniformly

throughout the world. In the United States, the belief of *almost* all accoucheurs is certainly in accord with the statements of Charpentier—puerperal fever is septicæmia, differing only from surgical septicæmia in that, superadded to infection, is the puerperal state. The most distinguished exception to this is Prof. Fordyce Barker; he still adheres to the views promulgated by him years ago, and it certainly tends to make every thoughtful man hesitate a trifle in propounding the absolute statement that puerperal fever is *always* simply puerperal septicæmia. In the memorable discussion before the New York Academy of Medicine, in 1884, when Thomas, with all his eloquence, plead for the entire identity of this fever with septicæmia, Barker protested alone against such a broad view, and stated that "his creed to-day is fully avowed in his book on the Puerperal Diseases, and unless in the future he learned new facts and new arguments to change his faith, he should die impenitent." In reference to Thomas' argument, he stated that its pathological doctrines were misleading and dangerous, because they were "super-saturated with septic infection." He (Barker) says that there does exist an epidemic disease differing in all characteristic points from what is known as septicæmia; differing in its origin, its modes of attack, its symptoms, its anatomical lesions. His conviction, therefore, is still that there is such a disease as puerperal fever *sui generis*. Lusk says, surgical fever and puerperal fever are not only analagous, but are essentially one and the same process. Of all who discussed Thomas' paper, only Mundé was inclined to agree in a measure with Barker. Mundé's views are best expressed in his recently published appendix to Cazeaux and Tarnier's Treatise on Obstetrics.

Gallabin holds that a puerperal fever, *sui generis*, may exist. According to Playfair there exists identity between puerperal septicæmia and surgical septicæmia, and there may be either *auto-infection* or *hetero-infection*.

Robert Barnes says, "that there are many points of analogy is undoubted; but there are also points of difference which forbid us to accept the doctrine of identity."

Atthill, Priestly, MacClintock, Macan, Johnston, admit that puerperal fever is only septicæmia, the result of ichoræmia.

Parvin, in his recent work on obstetrics says: "From what is known of so-called puerperal fever, it should not be regarded as a specific disease, and strictly speaking, there is no puerperal fever, that which is so denominated being a febrile affection caused by the entrance into the system of a poison from without, the nature of which we do not know, the entrance taking place through a wound of the uterus or of some part of the vulvo-vaginal canal."

Fortunately for the women, our treatment of

the disease is to-day more certain than our theory as to its origin, and if in the future a better explanation of the cause is offered than at present acceptable to the majority of accoucheurs, we do not hope for much change in the generally accepted treatment.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

BY J. F. JENKINS, M.D.,
OF TECUMSEH, MICH.

James Muir, æt. 42 years, a shoemaker by occupation, had been complaining of pain in the region of the liver and stomach for upwards of two weeks previous to calling a physician. Dr. Geo. Howell, who attended him during the last week of his illness, and with whom I was called in consultation, gave the following history of the case: Upon examination, the patient's pulse ranged between 50 and 60 until within a few hours of his death, when it exceeded 100 per minute. The skin was jaundiced. The temperature never exceeded 100° F., and within a few hours of his death it was natural. There was slight nausea, but during the last week of his illness the patient neither complained of pain in the region of liver or stomach. The area of dulness over the liver rapidly decreased, so that its lower border could not be detected upon the most careful examination when the writer was called in consultation, which took place about seven hours previous to the death of the patient. At no time did he complain of headache, or pain in any portion of the head. There was a tendency to stupor during the last week of his sickness, but up to twenty-four hours of his death (which took place March 10, 1889,) he could be easily aroused and would answer questions rationally. During the course of the night previous to his death the patient vomited up a pint or more of dark grumous blood, looking very much like that which is described as the black vomit of yellow fever. The stupor then became more profound, the pupils of the eyes were largely dilated, there being marked oscillation of the eyeballs from within outwards and taking place within a certain degree of regularity, averaging about ten times per minute and continuing within a short period of his death.

A post-mortem examination was made by Dr. Howell in the presence of several physicians, about twenty hours after death. An incision was made, exposing to view the stomach, bowels and liver, showing that the latter organ was from one-third to one-half its normal size. Its upper surface was pale in color, studded here and there with patches having the appearance of rhubarb in color. The fluid in the organ was darker and thicker than natural. No microscopical exami-

nation was made. The stomach and spleen apparently were in a healthy condition. The kidneys were slightly enlarged. A short distance from the entrance of the gall duct into the duodenum was found an old ulcer partially healed, and which appeared to have no significance relative to the disease of the liver.

Remarks.—All modern writers agree that acute yellow atrophy is a rare disease. Strümpell states in his late work, that about 200 cases are recorded. Its etiology is somewhat doubtful. In the above case, the man was of temperate habits, and was not given to excesses of any kind.

REPORT OF A CASE OF GONORRHOEA WITH PURPURA RHEUMATICA.

BY W. A. PHILLIPS, PH.B., M.D.,
OF EVANSTON, ILL.

The occurrence of purpura as a complication of gonorrhœal rheumatism has been noted so seldom that I report the following case:

March 2. Mr. B., æt. 19, milkman, with a previous history of chronic gonorrhœa, has had an acute exacerbation since February 8; also an efflorescence on lower extremities since February 26; also pain and swelling of several joints, March 2.

On examination: penis œdematous; purulent discharge from urethra, containing gonococci; inguinal lymph glands swollen spindle-shaped. A symmetrically distributed efflorescence of anterior and inner aspect of leg, and inner aspect of thighs extending into gluteal regions; over left ankle, the most troublesome joint, skin thickly covered; also upper extremities present a limited number about the wrists; rest of body free. The great majority of the lesions macular, some slightly elevated, of definite, irregularly circular outlines; sizes varying from pin-head to one-cent piece in area; in color a deep bluish-red, not changing on pressure, a few of the larger and elevated ones changing at their edges on pressure, the uniformly deep color of their greater extent remaining. One large macule annular, others with small papules marking their centres. Between the larger and elevated spots great numbers of the smaller macules, some brighter red, others of the more prevalent bluish-red. No evidence of itching. *Joints:* Ankles swollen, left more than right; similar symptoms on the part of wrists, also metacarpal joints of both hands; parts in neighborhood of affected joints œdematous. No fluctuation. Temperature normal.

March 5. Ankles free, knees swollen and painful, left more than right. Prepuce œdematous, anteriorly a large macule, posteriorly a nodular body size of pea. Temp. normal. Photographed.

March 12. Sudden appearance of great numbers of wheals on lower extremities, varying in

size from that of a pea to the area of a silver half dollar; some bright red, not changing on pressure, others rose red fading on pressure, others colorless. No itching. Temp. normal. Older efflorescence brown, yellow.

March 13. Wheals had all vanished, leaving many fresh macules, largest of the size of a silver quarter. No change of symptoms had accompanied fresh outbreak. Exciting cause not determined. Joints nearly free. Patient states that he bled freely from a slight wound of right hand.

March 20. Joints free; color of efflorescence varying from brown to yellow. Urethral discharge, mainly mucus, slight. Urine contains many tripperfaden.

Remarks.—Thoracic and abdominal organs negative, also the mucous membranes, except urethral. There was no previous history of rheumatism. The majority of the skin lesions were purely of a hæmorrhagic nature. Some individual lesions were of the character of erythema nodosum. The fresh crop of March 12, purpura urticans.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

October 6, 1888.

EXCISION OF THE KNEE-JOINT.

We show you to-day the patient on whom we did the excision of the knee-joint one week ago to-day. The dressings have not been disturbed since, and we bring him in here to re-dress his wound, that you may learn the *modus operandi* of changing the dressings of wounds. Now, in doing this, all the antiseptic precautions will be observed that were observed in the original operation. A wound like this is different from one made by the surgeon's knife. You remember this joint was a foul suppurating cavity, filled with pus. The poisonous germs were already there in great profusion. A wound made in sound tissue, by a surgeon's knife, if he be careful, may never become septic; the poisonous germs may never secure a lodgment in it, and it is in wounds like this before us that we frequently fail, because we are not careful enough in our management of them. Now that the dressing is removed from this wound, you see no evidence of suppuration in it;

these drainage tubes which have been in for a week are perfectly clean, so that we are not likely to fail in this case at least. These dressings might have been allowed to remain on for three weeks had it not been necessary to remove the drainage tubes. After a drainage tube has remained in a wound three or four days it has accomplished its purpose, and becomes foreign matter, and should be removed. In dressing a wound do not lay the first cloths or gauze on in straight flat layers, but rather loose, fluffy, or bunched; it absorbs much better than when laid flat. We next apply absorbent cotton and dress as before, taking care to apply enough absorbents to take up all the blood and serum that may exude. Whenever the discharge begins to show itself through the dressings, they should be removed at once, and the defect remedied. This man will now be returned to bed and his dressings will not be disturbed again for two weeks; unless pain or rise in temperature indicate that mischief is going on in the wound. You can see by his temperature chart that on the day of the operation his temperature rose to $101\frac{3}{4}^{\circ}$, and the next morning it had fallen to 99° , and in the evening arose to 101° . Since that time it has remained below 100° . You will see more of this man later on in the course.

ENLARGEMENT OF THE SCROTUM.

We have here another case which we will show you, a case of enlargement of the scrotum. Now there are various causes for enlargement of the scrotum, or many things that may be the cause of this state of affairs, and chief among them is hernia, which it is important to diagnose at once, when it is present; and in order to show you how to do it we will make a list of the conditions that might cause this enlargement. The following are some such conditions: Varicocele, hydrocele, enlarged testicle, hernia, orchitis, epididymitis, cystic disease, cancer, tubercle.

Now, varicocele is diagnosed by a peculiar knotty feeling of the contents of the scrotum, likened by somebody to the feel of a handful of fishworms. As I do not find any such feeling here, I erase varicocele. Hydrocele is diagnosed by its symmetrical, ovoid shape, and a translucency when held before a strong light; as these points are absent, we erase hydrocele. And as I can easily detect both testicles, and as they are of normal size and consistency, we exclude enlarged testicle, with all its causes. Now that all the other causes have been eliminated, we have diagnosed hernia, and as I can trace the mass up the inguinal canal to the internal ring, our diagnosis is verified. This is called differential diagnosis. This man was sent here for operation, and we had hoped to be able to do the operation for the radical cure of hernia, in your presence to-day; but since he has been in the hospital he refuses

to have an operation performed, and in this country when a patient refuses to have an operation performed we dare not do it, even if the country has to support the patient.

In the operation for the radical cure of hernia an incision is made from the internal abdominal ring down, well on to the scrotum; the protruded parts are returned to the abdominal cavity; a purse-string, catgut ligature is passed around the neck of the sac, which is then cut off and removed; the stump is placed within the abdomen and the internal ring closed with sutures. This is the operation in outline, and it is usually successful.

DOUBLE FRACTURE OF THE FEMUR.

Here is another poor man from Coal Bluff. While at his work in the mines last night a large amount of coal fell on him, injuring him, but how severely we know not, as we have not examined him yet, but will proceed to do so at once. You observe as he lays on his back that both limbs are everted, and some deformity above the left knee. Measurement in this case can afford us no information, because, both limbs being injured, we have no data from which to calculate. I will therefore raise the right limb, and by manipulating it I find a false point of motion about the middle of the right femur, which is plainly visible to you all, and although I fail completely to obtain crepitus, I still have sufficient evidence on which to base a diagnosis of fracture of the femur. Now, in manipulating the left leg, I am able to find a false point of motion, and to elicit crepitus, just above the condyles of the knee. We therefore have a double fracture of the femurs in this case; the fact that we get crepitus in the one case and not in the other, can be explained by the fact that in some fractures the bones glide past, or overlap each other, which is the case here. This overlapping is caused by the contraction of the muscles, which is sometimes overcome with great difficulty, and sometimes is never overcome. In regard to the treatment of fractures of the femur, you all know that formerly there was a great variety, but the almost universal method now of treatment is by extension and counter-extension; this, in old times, was accomplished by a long splint, and a perineal band. The perineal band was a great annoyance to the patient, for in passing around the perinæum it almost always irritated the parts, causing numerous ulcerations and sores.

In these days, and in this institution, extension is made by the weight and pulley, which represents the extension, and by raising the foot of the bed we get the counter-extension. This raising of the foot of the bed to get counter-extension has done away with the perineal band; it has also done away with a world of suffering for the patient. This is an American invention, and simple as it may seem it is entitled to con-

siderable praise in the treatment of fractures of the femur. The use of plasters for attaching the weight to the leg is also an American invention. And I may say right here, that to American surgeons is due the honor for more inventions, and better appliances in the treatment of fractures, than to the surgeons of any country on the face of the globe. As the skin is intact in this case we need not be so careful to observe antiseptic measures as we would were the skin broken. The probabilities are that this man will be one-fourth to one-half inch shorter than he was before this accident, as it is hardly possible that the strong femoral muscles can be drawn out to their full length; and I would say here, that it is always well to thoroughly anaesthetise the patient before trying to do this; for the double purpose of relieving the pain, and relaxing the muscle. There are always three things necessary in the treatment of fractures of the femur, viz: Extension and counter-extension, and the holding of the parts in position, or the preventing of the foot from becoming everted. The two former indications have been explained to you, and the latter is obtained in various ways; some surgeons lay a sand bag along the outer side of the leg, and to obtain the same result we use the splint, invented by Dr. Frank Hamilton, of New York (an American surgeon, too, by-the-way).

When plasters are applied directly to the skin, the mole-skin plaster should always be used, as the ordinary rubber plaster usually blisters the skin. When plasters are made to encircle a limb, they should be cut, or divided at one or more points, so as not to constrict or strangle the circulation of the limb; and where it can be avoided, plasters should not be put in contact with the maleoli, as they are likely to irritate them. For the left leg I will use a Volkmann's slide, which is a somewhat different apparatus, as you see, and one which I have used a great many times, and with good satisfaction generally. For the first few days a weight of about eight pounds will be heavy enough for this limb; after that it may bear twelve to fifteen pounds, and I have used as high as twenty-eight pounds; however, this is about the extreme, about twelve pounds being the average.

Now as to the bed. The bed for this man should be flat, and hard, a hair mattress being about the best, and he will have to lay on his back for several weeks. I find on examination that besides the fracture of both femurs this man has also a fracture of the clavicle on the right side; and now as the best treatment for a fracture of the clavicle is the recumbent position, on the back, in bed, and as this man is compelled to assume just this position for some time, no other treatment will be required for his fractured clavicle. In cases where more than this is required a compress may be placed on the back between the

scapulæ, and the weight of the shoulders will usually be sufficient to bring the fragments into apposition; if not, bags of shot may be laid on each shoulder to further increase their weight. This man will now be removed to the ward, and those of the students who wish may go to the ward and see the weight and pulleys applied.

FRACTURE OF THE CLAVICLE.

The next case we will show you is that of fracture of the clavicle, and as you are now studying fractures, this is a case that I am very glad to have to show you to-day. As you know, fracture of the clavicle occurs from violence, direct or indirect, and this is one occurring from indirect violence. This man fell from a scaffold yesterday morning, and lay unconscious till last night, when it was found that he had sustained this injury, together with other bruises and contusions about his body. As he stands before you now you will notice some deformity; the left shoulder droops, or hangs lower than the right, and in measuring from the sternal notch to the acromion process on the left side, I find that it measures $9\frac{1}{2}$ inches, and on the right side $10\frac{1}{2}$ inches, and, as you can see, the left shoulder also approaches the median line. This is caused by the fractured ends of the left clavicle slipping past, or overlapping each other. These signs, of themselves, would be sufficient for diagnosis, but besides these we have pain, loss of function, false point of motion, history of the accident, and might, if we tried, be able to elicit crepitus: so you see the diagnosis is easy enough in this case. Now the indications for treatment in this case, as indeed in all cases of fracture of the clavicle, are to raise the shoulder up and draw it backward, which is easiest done by confining the patient to bed on his back, with a compress between his scapulæ. But patients will not always submit to this treatment; so other arrangements must be made. In this case I will make use of Dr. Sayre's apparatus, which is simple, always obtainable, and easy of application. It consists first of a pad in the axilla of the injured side, then sew a strip of adhesive plaster about four inches wide, around the arm, draw the elbow to the side of the chest and backward, by passing the adhesive plaster around the back to the opposite side. Then place the hand of the injured side on the sound shoulder, take another adhesive strip, four inches wide and four feet long, cut a small slit in the centre, place the elbow in the slit in the centre, and pass the two ends up to meet on top of the sound shoulder. The anterior end will cover the forearm of the injured side, and retain the hand of the injured side on the sound shoulder. These strips should act as a sling, to raise the injured shoulder and support it in place. Two skin surfaces should never be allowed to remain in contact, so I will place cotton batting

between the arm and the breast. This constitutes Dr. Sayre's dressing for fractured clavicle. Where you are not prepared with plasters to put on this dressing, you may make a very good substitute by making an ordinary four-tailed bandage with a slit in the centre, in which you will place the elbow; then pass two of the tails around the body, confining the elbow to the side, over a pad in the axilla, pass the two remaining tails up over the sound shoulder, drawing it well up, supporting the injured arm. This makes a very good and a very cheap dressing, and fulfils all of the indications for which such dressings are applied. The clavicle is broken oftener than any other bone in the body, and, as in this case, almost always by indirect violence. The weight of the body at one end and the ground at the other, are usually the two forces acting upon the bone, which fractures at its weakest point, which is usually at the junction of the middle with the outer third. This accident frequently happens to babes and small children, from falling from their carriages and chairs. In children it is not a very formidable accident, as it usually heals kindly.

FISTULA IN ANO.

Through the courtesy of Professor McCann, we have another case to show you. It is one of fistula in ano. We place him at once in the lithotomy position, as you see, and the opening is at once exposed to view. A fistula, as you know, may be complete or incomplete. A complete fistula is one with two openings; one external, and one internal opening into the rectum. An incomplete fistula is one with but a single opening, and it may be either internal or external. I will try to pass a grooved director through this opening. In doing this you should always remember that we frequently fail to find the internal opening, and that this is frequently because we search too high up. As you see, I find the internal opening just inside the sphincter, and this is the location where it is usually found. I will incise the part that lies over the director, which constitutes the operation. The wound will now be dressed with iodoform gauze, and the patient kept quiet in bed for a few days, and an effort made to make the wound heal from the bottom.

FRACTURE OF BOTH FEMURS.

We have one more case to show you to-day; that on which I dressed a fracture of each femur three weeks ago. You see we already have a considerable amount of union here, as the man can roll both legs in either direction. I will now do what I would advise you all to do under like circumstances, viz.: to apply a plaster of Paris dressing. Up until within a year or two ago it was my rule to treat fractures of the femur with plaster of Paris bandage from the beginning, but I have about abandoned that practice here for the reason that

it interferes with making extension, and also because, after plaster is applied, every part of the wound is completely concealed from view, and we cannot readily ascertain the amount of progress being made by the reparative process, or whether the bones remain in apposition or not. For these, together with other reasons, we do not put on a plaster dressing until after slight union has taken place. There are various ways of applying this dressing. The plaster should not come in contact with the skin, and to prevent it we use various articles, as blankets, cotton batting, Canton flannel, or tight-fitting drawers, but for fractures below the knee, I prefer an ordinary stocking. In applying plaster dressings all bony prominences must be carefully protected by a layer or two of cotton batting. The points to be especially protected are the condyles of the femur, the spine of the tibia, and the malleoli. At the point of fracture reinforcements should be made by a few extra wraps of the plaster bandage. In the groin also, where counter-extension is to be made, we must be careful to protect the parts with cotton. We then start at the foot, and apply the bandage smoothly and evenly the entire length of the leg, making extra wraps at the point of fracture.

MEDICAL PROGRESS.

GLYCERINE SUPPOSITORIES.—POLUBINSKY concludes the eccoprotic action of the drug cannot possibly be attributed to anything like its softening or liquefying fecal masses, since (*a*) water, milk, olive oil, and other fluids, when injected into the rectum in similarly small quantities (6 grams or so) fail to excite any motions; (*b*) when injected in such trifling doses, glycerine is rapidly absorbed by the mucous membrane; (*c*) stools occurring after glycerine enemata are usually solid and sausage-shaped—that is, show no signs of liquefaction; (*d*) neither are the masses covered with any watery or slimy layer; (*e*) stools take place within a short time after the administration of glycerine, while the liquefaction process should necessarily require a comparatively long interval. 2. Glycerine undoubtedly causes a local irritation (probably congestion) of the rectal mucous membrane, since (*a*) all patients experience a sensation of warmth or some burning in the rectum; (*b*) there is observed a slight rise of the rectal temperature after the enemata; and (*c*) on a digital exploration during “calls” there are detected fairly strong contractions in the upper portion of the rectum. The drug, however, does not increase the secretion of the rectal mucous membrane. 3. The irritation lasts until a complete absorption of glycerine. Possessing a great absorbability, the substance very rapidly penetrates into the (very rich) lymphatic

vessels of the rectum, and, having disappeared from the latter, ceases to act. Hence it is unable to establish any considerable peristaltic action of the bowel lying higher up from the sigmoid intestine.

1. Best results are obtained from glycerine in cases of fecal accumulation in the rectum and S. Romanum. 2. In cases of fecal stagnation occurring higher up (typhlitis, general intestinal catarrh, etc.) the drug is altogether useless. 3. Glycerine enemata or suppositories are indicated especially (*a*) as a means for “training” the rectum—that is, for exciting regular rectal “calls”—in cases of habitual constipations; (*b*) in cases of constipation caused by fecal accumulation in the large bowel, and depending upon atonic state of the intestinal muscular coat, as occurring most commonly in women after parturition. Since intestinal atony in such patients is usually accompanied by a similar state of the abdominal press, a systematic employment of glycerine enemata must be obviously supplemented by daily abdominal gymnastics and massage, faradization of the abdominal muscles, and intra-rectal galvanization; (*c*) in such cases where the rectum and sigmoid bowel are mechanically compressed by pelvic tumors (including early pregnancy; (*d*) in retroversion of the uterus associated with pressure on the rectum; (*e*) in children suffering from scrofula of a torpid variety; (*f*) in such persons who experience difficulty and pain on defecation because of their feces being very hard, and who accordingly often abstain from stools. Here glycerine proves useful mainly as a local lubricant. 4. On the whole, glycerine enemata should be preferred to suppositories, since the latter (*a*) are more expensive; (*b*) their use is rather uncleanly (they easily melt in hands, etc.); and (*c*) their introduction into the rectum by a finger represents a by far more unpleasant procedure than an injection by means of a syringe. 5. In one group of cases, however, suppositories are to be preferred to enemata. It is the group mentioned (sub. 3*f*) where a relatively slow action is desirable, and where lubricant effects of glycerine are intensified by those of cacao butter.—*London Medical Recorder*, March 20, 1889.

PERIPHERAL NEURITIS DUE TO THE VOMITING OF PREGNANCY.—DR. D. W. WHITFIELD reports the following case in the *London Lancet* of March 30, 1889: Mrs. R., æt. 40, a lady of strictly temperate habits, was delivered of a well-nourished female child at full time on Aug. 7, 1888. This had been her seventh pregnancy. Her previous pregnancies had been unattended with much sickness. During this pregnancy, however, the sickness was troublesome from the first, and it increased as the pregnancy advanced, the skin assuming a most unhealthy, sallow appearance, as if the liver was not acting. She

lost flesh rapidly, but was not confined to her bed until the end of the sixth month, when she had a most severe attack of vomiting, large quantities of bile being vomited up. For about a fortnight hardly anything seemed to be retained, and she became so prostrated that I began to think it would be necessary to induce labor. However, at the end of a fortnight she improved a little, and some water gruel and essence of meat were retained. In another week she was able to sit up a little each day, but still the vomiting never ceased entirely, and until her confinement not a day passed without severe attacks of it. All the usual remedies were tried without much effect. Bismuth seemed to do the most good. She was now able to sit up each day, and was down stairs the day before her confinement. A fortnight previously, however, she felt her legs cold, and found she was losing the use of them; she had to be assisted up and down the stairs. She had no pain—only the feeling of coldness in the legs; she tried to obtain warmth in them by sitting before the fire, but in vain. Prior to this pregnancy she was a little inclined to stoutness, and I think she lost at least 80 pounds in weight. Labor was quite natural, lasting about five hours. The vomiting ceased the day after, and she began to take nourishment. She had no rise of temperature, the lochia were normal, and it was thought she was doing well. However, after the fourth day she complained of her legs feeling numb, and a few days afterwards of severe pains in them and of "pins-and-needles" in the hands, a burning sensation in the palms, and pains up the arms. She could move her legs slightly in bed, and the wrists did not drop until the twelfth day after confinement. On the thirteenth day we got her out of bed, and it was then I saw the extensive nature of the disease. Dr. Dreschfeld saw her with me on this date, when we found she had almost lost the entire use of both arms and legs. She was unable to bear the slightest weight on her legs, and had difficulty in crossing one over the other. The patellar and other reflexes were absent; both feet were extended and the toes flexed; the hands were dropped, the wrist and fingers were flexed, and she had no power to extend them. She had difficulty in raising herself in bed, and complained of a peculiar numb feeling around the lower part of the abdomen and epigastric region. The breathing fortunately was unaffected. There was pain on pressure over the main nerve trunks in both arms and legs. The cutaneous sensibility varied in different places—increased in some parts, diminished in others. We gave her liq. strychniæ, and employed massage, and in about a week she began to improve. The improvement has been slow but continuous, and at the present time, the arms, forearms, thighs, and trunk are almost well, but the hands, legs, and feet are not.

She cannot bear any weight on the feet as yet, although she can flex them and move them about more freely, and power is certainly returning gradually.

Remarks.—Of course peripheral neuritis may come on during any wasting disease, and very rarely after a confinement; but I am not aware of any case having been described which has been due to excessive vomiting during pregnancy. The question is, whether, should the symptoms show themselves during an excessively sick pregnancy, it would not be a sufficient reason for inducing premature labor. In this case the early symptoms were extreme coldness of the lower limbs from the hips downwards, with partial loss of power, followed by a feeling of numbness.

ON THE RELATIONS BETWEEN CHOREA MINOR AND POLYARTHRITIS RHEUMATICA, AND ENDOCARDITIS.—(*Wiener Med. Blätter*, 1888, 41 and 42.) HEGGE (Greifswald) says: It is universally admitted that chorea occurs in connection with polyarthritis and endocarditis; but the supposition that chorea and polyarthritis rheumatica and endocarditis always go together, so that a chorea without a rheumatic affection is unknown, is far from correct. Hegge still adheres to his opinion that a connection between chorea and endocarditis and acute rheumatism of the joints cannot be recognized as universally coincident, and that, in a great majority of chorea cases, the coexistence of heart disease is wanting. Also the publication by Brieger shows that the simultaneous occurrence of both diseases is possible only and really happens. The statements of Hegge show that in the clinic of Greifswald, during the past years, in a large number of chorea cases, the coexistence of rheumatic affections and endocarditis has often been observed. Five cases are reported. The first one recalls the case published by Brieger (*Berl. Klin. Woch.*, 1886, No 10). The second case had often suffered from rheumatism of the joints for a year. At the time of the chorea no palpitation existed, but there was a distinct systolic murmur at the apex, and also a second impure sound. In the third case chorea is said to have been caused by acute rheumatism of the joints which had existed two years before, was entirely cured and showed no tendency to relapse. In the fourth case, during the chorea, an insufficiency of the mitral valves was proven, whilst during the previous polyclinic treatment heart disease had not been found. The fifth case shows a patient who had been treated for chorea three years before, when an insufficiency and stenosis of the mitral valves was noted; the patient finally succumbed to a renewed attack of rheumatism of the joints and of compensatory disturbances. The post-mortem proved the heart disease. Thus these reports also show that chorea may occur in the course of infectious diseases, and that

of the latter polyarthritis rheumatica causes it the most frequently, but that not every chorea must have this "rheumatic diathesis," and even that this occurs only in a minority of cases. At any rate, a chorea must not be ascribed to a rheumatic affection which may have existed years before. Nor is the etiology of chorea uniform.—*Centralblatt für Klinische Medizin*, 1889, No. 13.

ON GASTRITIS MEMBRANACEA AND DIPHTHERIA.—(*Virchow's Archiv*, vol. cxlii, 2.) SMIRNOW had occasion to investigate six cases of so-called diphtheria of the stomach, in which the disease had developed immediately after diphtheria of the throat, and had been regarded as a continuation of the latter. In four cases, however, he found only a more or less considerable hyperæmia and extravasation without much cellular infiltration, a more or less extensive desquamation of the glandular epithelium (which had, however, retained its normal qualities), and membranes that could be regarded only as fibrinous, muco-fibrinous and fibrino-purulent. Furthermore, the connection between the membranes and the underlying tissue was everywhere such that the boundary line between them remained for the most part distinctly visible.

The author thinks that, in view of these anatomical conditions, the cases should be called fibrinous inflammation rather than diphtheria proper. In the two other cases there existed acute changes of a diphtheritic character, especially in the epithelium of the glands, such as in diphtheria is known as hyaline degeneration. There was enlargement of the cells, disappearance of the nuclei, and transformation of the cells into glittering homogeneous clots which subsequently melted together and formed the framework of the membrane; and combined with this there was necrosis of the connective tissue of the mucosa itself, so that there could be no doubt but that the disease was a genuine diphtheria, though only in its incipient stages.

From the investigation of the last two cases the author establishes the course of the changes in genuine diphtheria, in opposition to Oertel, as follows: 1. That the process does not begin with an inflammation, but with a necrosis of the pre-formed tissue which takes place with the formation of hyaline products. 2. These products furnish the principal material for the development of the membranes in the first stage. 3. Where inflammatory changes were observed in diphtheria of the throat, it was secondary to the degeneration and belonged to the period of reaction.—*Centralblatt für Klinische Medizin*, 1889, No. 13.

ON INTESTINO-PERITONEAL SEPTICÆMIA.—VERCHÈRE (*Revue de Chir.*, 1888, No. 7), justly declares that the name peritonitis is still wrongly used, and that under it, often, diseases are com-

prised which ought to be assigned an independent position. Among these he counts a complex of symptoms often observed after penetrating injuries to the abdomen, and after laparotomies, which consist of meteorism, more or less complete constipation, vomiting of gall or feces with normal temperature and small pulse. Such cases he would like to designate as intestino-peritoneal septicæmia. The post-mortem in cases with the above symptoms does not show any traces of peritonitis, and the symptoms mentioned are very similar to those observed in strangulation (aside from the circumstance that the course of the latter is generally much more rapid). The author supposes a pseudo-strangulation to be the cause of the disease under discussion, which occurs in injuries to the peritoneum by superficial adhesion of the serous surfaces, eventually also by rupture of a meteorically distended intestine. Death actually ensues from sepsis in consequence of resorption of the substances retained in the intestines, the resorption taking place directly from the mucous membrane, or from the peritoneum, after the intestinal walls have become permeable. According to Verchère treatment ought to be symptomatic. In this respect he distinguishes between the affections just mentioned and the genuine, for which he advocates the most active therapeutic measures.—*Centralblatt für Chirurgie*, 1889, No. 13.

HOW DOES SUSPENSION ACT IN LOCOMOTOR ATAXY?—DR. JULIUS ALTHAUS, in a letter to the *London Lancet*, says: In your journal of March 30, there is an account of a discussion which took place at a recent meeting of the Paris Society of Medicine on the question whether there was any satisfactory explanation of the results obtained in tabes by suspension. No plausible explanation, however, appears to have been forthcoming, and I therefore request your insertion of the following lines, in which I will attempt to account for the striking therapeutical effects which are obtained here as elsewhere by the use of suspension in such cases.

1. It has been ascertained that in tabes posterior spinal meningitis habitually accompanies the pathological changes in the nerve tubes of the posterior columns. The pia mater is found congested and thickened at the level of the posterior columns, the spinal fluid being unduly increased, and this change being more pronounced in the dorso-lumbar than in the cervical region of the cord. Now I maintain that the good effects which are sometimes obtained by cauterization of the spine in such cases are rather owing to its revulsive influence on the meningitic process than on the sclerosis of the nerve tubes; and it appears to me highly probable that part of the influence of suspension, by which the spinal cord is efficiently stretched, is owing to the *breaking down of adhesions from chronic meningitis*, thus

allowing a freer transmission of nervous influence along the nerve tubes, more especially those which run on the surface of the posterior columns. This explanation appears to me also to account for the fact that suspension acts better in advanced than in fresh cases of locomotor ataxy. In recent cases there is more tendency to inflammatory irritation, which may be made worse by stretching, just as recent cases of disease of the joints, tendons, ligaments, etc., are improved by rest, and old cases by forcible extension.

2. The morbid process in the posterior columns and nerve roots consists essentially of destruction of the medullary sheath and the axis cylinder of the central nerve tubes, together with overgrowth of the interstitial connective tissue or neuroglia which cements the nerve fibres. The neuroglia, from being originally soft and yielding, gradually, as the disease progresses, loses its cells and nuclei, becomes firm, hard, and fibrous, and is liable to cicatricial shrinking. The gradual contraction of this tissue causes compression and squeezing of the central nerve tubes, and thus serves to impair their nutrition and conductivity. Now it seems to me allowable to assume that, by the process of stretching the spinal cord, *the overgrown and unduly hardened neuroglia may be loosened and broken down*, with the effect that those nerve tubes which have, to some extent, survived the sclerotic process are freed from compression, become better nourished, and may thus be enabled to transmit the nervous influence more efficiently than before. Apart from this, however, I have come to the conclusion that suspension has, in a number of cases, a beneficial influence on the medulla oblongata, as it stimulates the centres for vaso-motor and cardiac action and for digestion. In several patients whom I have submitted to this treatment, I have noticed that the pulse, which was unduly quick and of low tension before they were suspended, fell by six or eight beats, and acquired more tension after they had been taken down. In a large majority of my cases the appetite and digestion have improved, and mental depression has been lessened or removed.

The forms of nervous disease for which my personal experience leads me to think that suspension is applicable are the following: 1. Locomotor ataxy in the second stage. 2. Paralysis agitans. 3. Spastic spinal paralysis. 4. Amyotrophic lateral sclerosis. 5. Functional nerve prostration, more especially where there is feeble action of the heart; loss of appetite; and severe mental depression.

SYPHILITIC FEVER RESEMBLING TERTIAN AGUE.—DR. SIDNEY PHILLIPS, at a recent meeting of the Medical Society of London, reported the following case: A woman, æt. 27, a cabman's wife, with a healthy previous history,

married in 1879; six months later her hair commenced to fall out, she had ulceration of the tongue and sore throat. Her first three pregnancies ended in miscarriages, she then bore four healthy children, and these were followed by another miscarriage. One of the children had died of whooping-cough, the others remained well. The husband had had syphilis six months before marriage, but the wife had not shown evidence of primary sore. In May, 1888, she was attacked with fever, accompanied by shivering and sweating, the attacks at first recurred every day and then on alternate days. Ten days after her admission to hospital quinine was administered in 2-grain doses three times a day, and then 5 grains were given before the expected pyrexial attack. This at first checked the height of the temperature curve, but afterwards lost its effect, and an increased dose did not improve matters. At length iodide of potassium and mercury were given, which not only reduced the temperature, but also relieved the distressing headache and vomiting which had been present. The differential diagnosis from Hodgkin's disease, typhoid fever, tuberculosis, ulcerative endocarditis, pyæmia, and malaria was discussed. The question whether the pyrexia was associated with a local syphilitic lesion was raised, but no localizing evidence could be obtained. Erythema nodosum was present, and apart from syphilis it was rare to find this accompanied by fever. John Hunter and Fournier had described cases of syphilitic fever similar to that brought forward, but none so late as the ninth year after infection. These rare varieties of specific tertian fever occurred usually in females; the long duration of the pyrexia (eight months) was also a matter of interest.—*Lancet*, April 13, 1889.

A CHEMICAL VACCINE FOR CHOLERA.—DR. YVERT has submitted to the Academy an interesting treatise: "A new curative and prophylactic treatment for Asiatic cholera. Bichloride of mercury considered as an anti-cholera vaccine." The author says: "I have had, during my recent stay in Tonkin, occasion to observe and treat a large number of cases of Asiatic cholera. The mortality in this part of Asia averages as in Europe 66 per cent. Of forty-five patients whom I treated with bichloride of mercury in doses varying between 0.02 and 0.04 gr. within twenty-four hours, I lost only nine *i.e.*, about 20 per cent. As this result proved to me that the mercury had a decided effect upon the pathogenic agent of the disease, I used it prophylactically for patients who had recently arrived in a region infected with cholera. Of those who were thus treated not one was taken with the disease."

M. Léon Cotin, in presenting the above memorial to the Academy, says: "This new treatment is not a mere fancy; the author who

was the medical chief of a post in Tonkin invaded with cholera, claiming not only to have cured, but to have prevented the infection by the administering of the liqueur van Swieten, the Academy will doubtless agree with me that this work merits an especial investigation, and will order its reference to the committee on epidemics." *Journal d'Hygiène*, Vol. xiv, No. 646.

ANTIPIRYN IN LABOR.—DR. ERMANN PINZANI recently made a communication to the Società Medico-Chirurgica di Bologna, in which he gave an account of some experiments he had made with the view of ascertaining the effect of antipyrin on the strength of the uterine contractions in labor. Two series of experiments were made. In five cases he simply kept his hand on the woman's abdomen for some hours, and noted the condition of the uterus before and after the administration of the drug. In eight other cases (on which he made in all twenty-three experiments) he passed an india-rubber ball, first disinfected, and then filled with a watery solution of corrosive sublimate, into the uterus; this he connected with a manometer, which gave him an accurate gauge of the pressure exerted by uterine contractions on the fluid in the ball. Dr. Pinzani was careful to exclude irritation of the uterus by the foreign body as a source of fallacy by previously warming the fluid in the ball to the temperature of the body, and by waiting for some time after its introduction before making observations. In the first set of experiments, 3-gram doses of antipyrin were given by the mouth; in the second, the doses were from one to two grams. Dr. Pinzani came to the conclusion that antipyrin relieves the pains of labor simply by lessening the force of the uterine contractions. The effect of the drug showed itself in about two hours after hypodermic injection, and four or five after administration by the mouth. He noticed that infants suckled by women who had had antipyrin given them during labor were apt to suffer from diarrhoea. Dr. Pinzani's verdict is, therefore, decidedly against the use of antipyrin in midwifery practice. — *The British Medical Journal*, March 9, 1889.

HEPATIC ABSCESS BURSTING INTO THE PERICARDIUM.—DR. JOAQUIN L. JACOBSEN, of Havana, reports a case in which an abscess of the liver, which was not recognized during life, was found after death to have burst into the pericardium. The complication is so rare that Dr. Jacobsen has been able to find only ten cases previously recorded. The patient was a white man, æt. 39, who had been a heavy drinker, and had suffered from malaria. He had been troubled for about a year with dyspeptic symptoms. He was pale and slightly jaundiced, and had lost flesh. Both the liver and the spleen were enlarged, and there was some tympanites. He

complained of constant pain, sometimes referred to the epigastrium, sometimes to other parts of the abdomen. Percussion in the epigastric region caused a little pain, but gave a normally resonant note. He was treated with purgatives and alkalis, and a blister to the epigastrium. The enlargement in the region of the liver increased, but no fluctuation could be detected, and there were no signs of adhesion. Symptoms of intestinal obstruction came on soon afterwards, with marked tympanites and dyspnoea, and three days after the commencement of this new phase of his illness the patient died. At the necropsy the lungs were found contracted and pushed towards the posterior and upper part of the thorax; the parietal layer of the diaphragmatic pleura was thickened and congested; the pericardium, which was also thickened, contained a large amount of sero-purulent fluid, dark-yellow in color; the outer surface of the heart, which was rough and granular, was of the same color. At the lower part of the pericardium, slightly to the left of the middle line, there was an opening with ragged edges, about four centimetres in diameter, passing through the diaphragm and communicating with an irregular opening in the posterior part of the convex surface of the left lobe of the liver. For some distance round this opening there were firm adhesions to the diaphragm. The liver was enlarged and somewhat hardened; its right lobe was congested, and in the left there was a large cavity measuring 12 centimetres in the transverse by 10 in the vertical and antero-posterior diameters, and full of yellow pus. The spleen, which was enlarged and softened, presented two large milky-looking patches on its outer surface. The gastro-intestinal mucous membrane was thickened and injected. All the other organs were healthy. Dr. Jacobsen points out that the abscess was in the posterior part of the liver, leaving a considerable portion of the front part of the left lobe untouched, while the symptoms did not clearly indicate any affection of the liver beyond what was consistent with the patient's gastro-intestinal disorder and alcoholic antecedents. Exploratory puncture could hardly have been successful even if it had been thought justifiable. — *British Med. Jour.*, March 16, 1889.

CURE OF A CASE OF MORBUS BASEDOWII THROUGH IMPROVEMENT OF A NOSE TROUBLE.—HOPMAN (*Berl. Klin. Wochenschrift*, 1888, No. 42), found in a patient suffering from rhinopharyngitis sicca with extensive crust formations in the nose and pharynx, exophthalmos, especially on the right side, considerable stenocardia and general feeling of weakness, which symptoms led him to suppose an incomplete form of morbus basedowii. Through appropriate treatment of the nose trouble the morbus basedowii was cured. — *Centralblatt für Klinische Medizin*, 1889, No. 13.

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SATURDAY, MAY 4, 1889.

ETIOLOGY OF PULMONARY PHTHISIS.

The recent comments in THE JOURNAL concerning the best climate for consumptive patients, and the necessity for careful discrimination in regard to the extent and stage of progress of the pulmonary disease, as well as to the special qualities of climate, have called forth a letter from DR. HENRY B. BAKER, Secretary of the Michigan State Board of Health, which will be found in this number of THE JOURNAL under the head of "Domestic Correspondence." The letter calls our attention to his paper read in the Section of Climatology and Demography of the International Medical Congress in Washington, D. C., 1887, in which he claims that dry cold air exerts a controlling influence in the production of all the inflammatory affections of the respiratory passages and parenchyma of the lungs, including pulmonary phthisis.

The facts, statistics and diagrams contained in his paper constitute a valuable contribution, and so far as they relate to the prevalence of coryza, influenza, bronchitis and pneumonia, chiefly during the coldest part of the year, they are in entire harmony with the facts and deductions contained in the valuable monograph on "The Climate of the United States and its Influence on the Prevalence of Diseases," by Samuel Forrey, and in the large work of Daniel Drake published near the middle of the present century, and works of many other writers. While the accumulation of facts abundantly prove that in this country more deaths result from pneumonia and the strictly inflamma-

tory affections of the air passages, annually, during the months of January, February, March and April, than in all the other months of the year, the same rule does not apply, however, except in a very limited degree, to pulmonary phthisis. This is proved by the tables adduced by Dr. Baker himself. His table 10 gives the average deaths per week from phthisis in London for thirty years, from 1845 to 1874, showing the highest average in any one month 162, for April, and the lowest 132, for September; and his table 11, showing the average percentage of sickness from phthisis in Michigan for nine years, from 1878-1886, gives the highest average for any one month 70, in April, and the lowest 61, in August. Doubtless, if the diagnosis between true tubercular phthisis and chronic interstitial pneumonia (catarrhal phthisis) had been made, which was not the case in these tables, the comparatively small excess for the months of March and April would have been found resulting entirely from the latter form of disease, leaving the true tubercular disease very equally distributed throughout the year. Another fact fully established is, that tuberculosis originates far more frequently among those classes in any community that are most confined within doors, in the most damp and badly ventilated dwellings, instead of among those most exposed to cold dry air. Dr. Henry I. Bowditch, many years since, established, by a careful examination of the records of mortality from phthisis for a series of years in the various school districts of Massachusetts, the fact that the highest ratio of its prevalence and fatality was uniformly in the districts having most dampness or water in the surface soil, and consequently the greatest amount of aqueous vapor in the atmosphere.

The topic of most particular interest in the paper by Dr. Baker, is, his theory of the production of bronchitis, pneumonia, phthisis, etc., by the inhalation of very cold and dry air. He states "that the breathing of cold air (which is always dry air, because cold air cannot contain much moisture) dries the throat and air-passages, that this leaves in the throat and air-passages salts of the blood, which do not evaporate with the moisture; that the albuminous parts of the blood, which do not pass out of the blood-vessels under other circumstances, do pass out whenever the salts accumulate greatly in the fluid which

naturally moistens the throat and air-passages. Therefore, whenever a person has breathed unusually cold dry air until that fluid, because of its evaporation, contains much salt, the albuminous part of the blood comes out in the throat or lungs wherever the salty fluid is. Whenever this exudation occurs there is then a chance for the *bacillus tuberculosis* to lodge and multiply, because it is there kept in a nutritive solution at the temperature of the body."

He claims that all the diseases named are controlled by the temperature and dryness of the atmosphere, and in the manner just indicated. How can this explanation be reconciled with the fact that the highest ratio of phthisis to the population is in the North-Eastern and Middle States, and the highest ratio of pneumonia is on the lower part of the Atlantic Slope between the Delaware and Savannah, and in the middle and northern part of the Mississippi Valley, with deep, moist alluvial soil, and atmospheric moisture above the average for the whole country? Again, if it is cold and *dry* air that favors the production of pneumonia and phthisis, why does the first reach its climax in February and March, and the last in March and April, the three most changeable and *wet* months of the year?

PHAGOCYTES.

DR. WILLIAM OSLER, in his interesting address before the Society of the Alumni of Bellevue Hospital, April 3, 1889,¹ gave an excellent summary of what is at present known concerning the active functions of those normal protoplasmic bodies, termed colorless corpuscles, migrating cells, leucocytes, etc. Since Metschnikoff clearly demonstrated the fact that the colorless corpuscles of the blood were not only capable of amœboid movements, but also of attacking and enveloping foreign bodies in the blood and tissues, a large number of active investigators in Europe and America have studied the subject with more or less success. And all agree in stating that these cells are, throughout the healthy structures of the body, actively engaged in enveloping and removing minute particles whether derived from the disintegration of tissue or introduced from without.

From their exhibition of this capacity to de-

vour and remove obstructions and foreign particles, they have been called *phagocytes*. Dr. Osler says they are met with: "1. As the colorless corpuscles of blood and mucus. 2. The connective-tissue cells, free and fixed, within the connective-tissue proper, or forming the supporting framework of the solid organs. 3. Cells of the spleen, bone marrow, and lymph glands. 4. The vascular and lymphatic endothelium. 5. The alveolar epithelium of the lungs." Metschnikoff regards the function of all these phagocytic cells, whether in the blood or in the several structures, as a property derived from the primitive unicellular organism; and attempts to show a genetic relation between the free living rhizopods and the cells of the middle germinal layer of the higher animals.

The lecturer first gives the principal facts established by a number of able investigators relating to the work done by the phagocytes in the physiological processes of nutrition and disintegration or metabolism, and shows conclusively that they exercise important functions throughout the lifetime of the animal. He says: "Not only in the early steps in the development of the blastoderm do we see them actively at work, but in the various stages of development, and in the mature body we have seen that in the lungs, in the intestines, and in the blood-making organs they have most essential functions." He next presents, in a clear and impartial manner, what has been ascertained concerning the action of the phagocytes on such microorganisms or parasites as may invade the living body. He gives the results of Metschnikoff's observations concerning the action of leucocytes in destroying the anthrax bacilli, the microorganism of erysipelas, the spirillum of relapsing fever, and the bacillus tuberculosis. He gives also the observations of Baumgarten and Hess in relation to the same microorganism, and those of Ribbert and Hess in regard to their action on the staphylococcus pyogenes aureus when injected into the lungs of rabbits; and those of Christmas-Direcknick-Holmfeld, Richard, Marchiafava and Celli, Golgi, Bitter, Nuttall, Sternberg, Councilman, James, Shattuck, and his own. Three or four of the last named have devoted much time to the study of the hæmatozoa of Laveran, as presented in the blood of patients affected with malarial fever and their relation to leucocytes. All the investiga-

¹New York Medical Journal. April 13, 1889.

tors who have carefully studied the subject, agree that the cells in the blood and tissues included under the head of leucocytes are found in various parts, containing within themselves more or less of the debris from disintegrating red corpuscles, necrotic tissue, and various microorganisms, and may, therefore, be regarded as natural scavengers; they do not all agree in regard to their true phagocytic character.

For while Metschnikoff, Laehr and Ribbert would represent them as an army of warriors, ever ready to attack and devour every microorganism that ventures to invade the living body, thereby making the living body a perpetual battlefield, in which the army of phagocytes are waging, with varying degrees of success, an exterminating contest with the hosts of pathogenic germs that are perseveringly striving to enter their citadel; Baumgarten, Hess, Bitter and Nuttall, directly deny their active phagocystic character, and claim that they are simple scavengers aiding in the removal of the debris resulting from either disintegrating structure elements or microorganisms already dead, or foreign particles of any kind. With strict impartiality Dr. Osler closes his excellent lecture with the following paragraph:

"To conclude: While phagocytosis is a widespread and important physiological process throughout the animal kingdom, and while it undoubtedly plays a most important part in many pathological conditions, the question of an active destructive warfare waged by the body cells against the microorganisms of disease must still be considered an open one."

ATROPINE AS A REMEDY FOR SHOCK.

Under this head DR. FRANK C. BRESSLER, of Baltimore, has a brief communication in the *Therapeutic Gazette* for April, 1889, in which he refers the primary seat of shock to the nervous centers in the medulla oblongata. He claims that shock is not only a depression of the circulation, but in every case involves the cardiac, respiratory, vaso-motor and secretory centers, so far as they exist in the medulla oblongata, and consists in a sudden molecular disturbance in those centers of greater or less severity. It is not claimed that all these centers are equally disturbed in every case of shock. On the contrary, in some

cases the cardiac and vaso-motor functions are chiefly affected, and in others the respiratory suffer most, as it did in the case related by Dr. Bressler; and in choosing remedies we should be guided by the special predominating feature of each case. The correctness of the claim that *all* cases of shock have their primary seat in the medulla oblongata admits of some doubt. Cases of shock derived from blows or severe injuries in the epigastric region, especially, have been characterized by such extreme depression of the vaso-motor influence over the circulation, while the respiratory and mental functions were much less disturbed, as to suggest the thought that the primary seat of molecular disturbance was in the semi-lunar and other abdominal ganglia of the sympathetic system of nerves, and only reached the cerebro-spinal centers secondarily through the connecting links with those centers.

Granting the correctness of the position that the alarming condition recognized as *shock*, whether produced by mental or physical influences, consists in a direct depression or impairment of the function of one or more of the important nervous centers, in choosing remedies it is of much practical importance that we keep in mind two facts; *a.* that a large percentage of cases of shock have recovered without any remedies, except fresh air and rest, and many more have done so in opposition to the injudicious remedies used; and *b.* that when medicines are required they should be such as are capable of increasing either nerve force or nerve sensibility, or both, and not mere anæsthetics that while quieting restlessness, actually diminish both sensibility and activity in the nerve centers. But this distinction is entirely lost sight of by the people and a large proportion of the profession, as we see in the almost universal resort to alcoholic liquids as the first, and in many cases the only remedies in such cases. And yet no fact is better established than that alcohol is as direct an anæsthetic as is chloroform or ether, and as certainly diminishes both the sensibility and activity of the nerve centres, even to the degree of entire paralysis if the administration is continued sufficiently active. As an illustration of this general tendency to confound anæsthetics with nerve tonics, Dr. Bressler himself commenced the treatment of the interesting case he relates by administering brandy both by hypodermic injection and by the mouth,

but finding "no improvement," and the "breathing becoming shallower," he abandoned its further use, and his patient was given $\frac{1}{80}$ gr. of sulphate of atropine by hypodermic injection and the same was repeated five minutes later, and in less than five minutes more the "breathing began to get freer, the pulse became fuller," and the improvement continued until all alarming symptoms had disappeared. Had he continued to multiply the doses of brandy, its anæsthetic effect might have extinguished what remaining respiratory nerve force the patient had, and both friends and physician would have excused the death on the supposition that they had not been able to commence the use of the remedy early enough; as has often been done in times past. We are fully satisfied that the class of remedies to which atropine, digitaline, strychnine, caffein, theine, etc., belong, afford us the most efficient means for relieving shock, and all instances of sudden depression of the respiratory, cardiac, and vasomotor nerve functions. When not readily administered by the mouth, they can be used efficiently by hypodermic injection or by rectal enema suspended in either water or milk as warm as the rectum will tolerate.

MEDICAL PROGRESS IN AMERICA.

During this eventful week we celebrate the Centennial of our Republic under its present constitution. It seems appropriate at such a time to consider briefly the progress of medicine in our country during these eventful years. It should be remembered that during the first fifty years in the history of the infant Colonies, the question paramount to all others was simply that of *survival*; that during the century that preceded the present, these Colonies were confronted by the two most powerful nations beyond the sea and by their savage allies lurking in ambush behind us, in the adjustment of the great questions of *domain*, of *tribute* and of *franchise*. While blood was flowing, as the price of a free Republic, the sons of America had little time for other thought. In the beginning of the present century, when it was written of us: "In the four quarters of the globe who reads an American book? or goes to an American play? or looks at an American picture or statue? What does the world yet owe to American physicians and surgeons?" much as they might appreciate

books and the stage, the fine arts and the culture of men, our people had been in no condition, until the dawn of the present century, to discover to the world their real purpose and their power. At that date few of our young men were possessed of the means and the leisure to pursue their professional studies in foreign schools, much as they might desire to do so. The church and the common school, during all these years, had stood side by side, and the establishment of a free and permanent Government gave the opportunity for the wonderful developments which were to follow. During these hundred years, while fifty millions of people have been added to our population, and while our material advancement has been without a parallel, it is interesting to note with what success the medical profession has been able to meet the immense requirements laid upon it.

A century ago, the University of Pennsylvania founded in 1765, and Harvard University, organized in 1782, represented the only medical colleges upon this Continent. In 1797 Dartmouth was added to the list, and in 1807, the New York College of Physicians and Surgeons was founded. From these beginnings, there have come to be at this date one hundred and four regularly organized medical colleges—exclusive of all others in any way allied to specialties or pathies.

The progressive character of our schools is manifest in the more and more general adoption of graded courses of instruction, in their preliminary requirements, in their lengthened terms of study, and in the requirement of full courses of clinical instruction, both in laboratories and in hospitals. The students who graduate from our colleges now number over four thousand annually—and yet a careful examination reveals the fact, that this number only equals the demand.

During the century the creation of hospitals has been one of our most beneficent works—until now not a city of any note, not a populous county of any State, but has ample provision for its deserving poor and its sick people.

During the century, medical journalism in America has been created. It has already accomplished a vast work for our profession. Much yet remains to be done, and it has before it vast possibilities and unlimited field for improvement. American medical text-books are witness and a credit to American authors.

In answering the question, "What does the world yet owe to American Physicians and Surgeons?" we may truthfully answer, that they offer to their countrymen a skill and a success in medicine and surgery that is unsurpassed. The records of the recent *war* have given the surgeons of our armies a record of such results on the field, in the camp and in the hospital as had never been achieved before, and it would be injustice to our physicians to accord to them a less worthy record. During the century America has made two contributions to the profession, which may be best stated in the language of a distinguished English writer, Prof. G. T. Bettany.

Writing upon the history of ovariectomy, after stating that John Belle, in Edinburgh, in 1794, had dwelt with much force upon the practicability of removing ovarian tumors by operation, Prof. Bettany says: "It was reserved, however, for a pupil of his, Ephraim McDowell, from Virginia, to perform the first modern operation of ovariectomy for disease.

"He settled in practice in Kentucky in 1795, and in 1809 carried into effect this novel operation upon a middle-aged woman, who survived to complete her seventy-eighth year, in 1841. Thus an American had the glory of first boldly starting in the new path."

Again, writing with reference to the introduction of ether as an anæsthetic, without discussion of the priority of its use by American dentists, and of its successful use by them in September, 1846, he writes that "in October following it was used in an important operation by Dr. J. C. Warren, at the Massachusetts General Hospital. The news arrived in England before the end of 1846, and on December 19th James Robinson, a dentist on Gower Street, London, was the first to operate under ether in this country, for the removal of a tooth. On December 21st Robert Liston employed it most successfully at University College Hospital on an amputation of a thigh. . . . Its general adoption followed in the first few months of 1847."

When we consider the unparalleled growth of the Nation, the absence of educational institutions at the beginning, the cost of their development, and the difficulties to be encountered, while we are deeply sensible that much more might have been done, we heartily congratulate the medical profession that during the century so much has been accomplished and that our countrymen have done their work so well.

EDITORIAL NOTES.

THE AMERICAN SURGICAL ASSOCIATION will hold its next annual meeting in Washington, May 14, 15, and 16, 1889. David W. Cheever, M.D., of Boston, President, and J. R. Weist, M.D., Richmond, Ind., Secretary.

YELLOW FEVER.—A pretty well authenticated case of yellow fever has been reported at Sanford, 120 miles south of Jacksonville, Florida, that terminated fatally on the 20th of April, 1889. The victim was a Mrs. Dumont, the wife of a baker and keeper of a boarding-house. Active measures are being taken to prevent its spread under the direction of Dr. Daniel, President of the Florida State Board of Health. The sanitary condition of Jacksonville is reported as good.

MEDICAL MISSIONARY WANTED.—A competent physician and surgeon is desired, by the Secretaries of the Missionary Society of the Methodist Episcopal Church, to take a position as physician and surgeon to the Jeho Silver Mining Company, in North China. It is desired that he should be a member of the Methodist Episcopal Church, who is willing to devote himself to medical missionary work in the Chinese Empire. For one who is thus disposed an opening of unusual promise for successful work is here presented. Please address Corresponding Secretaries, Mission Rooms, 805 Broadway, New York.

INCONTINENCE OF URINE IN CHILDREN.—Dr. Simon Baruch, in the *Archives of Pediatrics*, April, 1889, claims considerable success in the treatment of this frequent and annoying affection with belladonna or atropine. To children from 6 to 10 years of age he gives $\frac{1}{8}$ gr. of atropine about 4 o'clock P.M., and repeats it at bed-time, unless at that time the pupils are well dilated. He deems it necessary for success in the treatment that the child be sufficiently under the influence of the medicine to have the pupils dilated during the hours of sleep.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

Laryngological and Otological Section of American Medical Association.

The officers of this Section can assure the profession of a full and profitable session, as there

have already been promised over thirty papers. The following is but a partial list of the contributors. A revised list will be published soon:

Bryson Delavan, M.D.; C. H. Knight, M.D.; Lawrence Trumbull, M.D.; Holbrook Curtis, M.D.; Chas. H. Knight, M.D.; C. E. Bean, M.D.; Geo. A. Richards, M.D.; Chas. Denison, M.D.; S. S. Bishop, M.D.; A. B. Thrasher, M.D.; Carl Seiler, M.D.; Chas. E. Sajous, M.D.; Hal. Foster, M.D.; John E. Logan, M.D.; F. Whitehall Hinkel, M.D.; W. C. Richardson, M.D.; F. O. Stockton, M.D.; Lenox Browne, London.

The following have signified their intention of furnishing papers if possible for them to do so:

E. F. Shurley, M.D.; E. Holden, M.D.; J. N. Mackenzie, M.D.; John Porter, M.D.

The programme will be carefully arranged and a definite time allowed for each paper, so that no time need be wasted. All titles should be sent to the Secretary before the 14th day of May.

E. FLETCHER INGALS, M.D., Sec'y.,
70 State St., Chicago.

W. H. DALY, M.D., President.

Section on State Medicine.

The following additional papers have been prepared for the Section on State Medicine:

"Notes on the Progress of Leprosy," Dr. Benjamin Lee, Philadelphia, Pa.

"Disposal of House Refuse," Dr. Alfred L. Carroll, New York, N. Y.

"Modern Sanitary Conditions," George E. Waring, Jr., Newport, R. I.

"Ranch Life in Texas for Consumptives," Dr. J. R. Briggs, Dallas, Tex.

"The Benefits of Sanitation Applied to Obstetric and Gynecological Surgery," Dr. T. A. Ashby, Baltimore, Md.

"Report of the Standing Committee on Meteorological Conditions," Dr. N. S. Davis, Chairman.

S. T. ARMSTRONG, Sec'y of Section,

U. S. Marine Hospital Service, New York.

J. BERRIEN LINDSLEY, Chairman.

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting, December 19, 1888.

THE PRESIDENT, THOMAS C. SMITH, M.D., IN
THE CHAIR.

DR. MORAN presented for Dr. P. J. Murphy the following pathological specimens:

AN OVARIAN MULTILOCLAR CYST.

Mary G., æt. 20, white, single, native of Va. Admitted Nov. 28, 1888. Puberty at 14. Was well in every respect until fourteen months ago,

when she was confined to bed for several days by severe pain in the lower part of the abdomen. At that time she noticed a swelling in the left side which has increased steadily until the whole abdomen is distended. She has had no pain since the first attack except backache at times. Menses have continued regular and normal to date. Menstruated November 27 to December 2. Slightly constipated. Appetite poor. Nervous. Does not sleep well. Has lost a great deal of flesh.

Examination December 12, under ether. Irregular mass in abdomen, movable, and extending from below the pubes two inches above the umbilicus. This mass was firm, lobulated, and no distinct fluctuation detected. Uterus normal and does not move with the growth. Body of uterus and right ovary could be distinguished per rectum. Left ovary not felt.

December 19. After a consultation of the advisory board the patient was etherized, and an exploratory incision three inches long made in the median line. The tumor was found to be ovarian (left ovary), and the incision was extended to the umbilicus, after attempting to draw off fluid from the growth with a trochar, several vascular adhesions ligated and cut, and one large adhesion to the abdominal wall torn through. The tumor was then turned out of the abdominal cavity, the pedicle ligated with strong silk and severed with scissors. Shock was severe—the patient being pulseless for thirty minutes after the mass was turned out, and the hæmorrhage from adhesions was severe and difficult to control; numerous ligatures of fine catgut were used for this purpose. The bleeding was finally checked, and a drainage tube being inserted, the wound was closed with deep sutures of silk and superficial sutures of catgut. She was put to bed, given $\frac{1}{4}$ grain of morphia hypodermically and reacted well.

CANCER OF THE RECTUM SIMULATING PELVIC CELLULITIS IN ITS PHYSICAL SIGNS.

B. C., æt. 55, white, native of Ireland, applied for admission to the Hospital December 3, 1888, giving the following history: Never married. Had good health until four months ago, when, after standing a great deal on her feet, she experienced pain in the right iliac region. This pain was severe at times, always present, and growing worse. About the time this pain began her bowels commenced to move four or five times a day. Evacuations watery, light colored, and containing mucous strings. Appetite fair. Otherwise healthy. Has been living on toast and "dry food" to check the diarrhœa.

Examination. Patient emaciated. Abdomen flabby and slightly tender to pressure on right side. Uterus prolapsed and immovable. Cervix small, with a "pin hole" external os. Vaginal

roof indurated and a hard mass plainly felt in the sac of Douglas, tender to the touch.

It was thought to be a case of pelvic cellulitis, and intestinal catarrh, and the patient admitted to the Hospital. She was put to bed, given a milk diet, hot douches, and a 5-grain salol pill every four hours. In a few days the diarrhoea ceased and she became constipated.

December 10. A dose of salts given and vomited.

December 11. This was repeated, but the bowels did not move. Enema ordered, but without effect.

December 12. Castor oil capsules containing $\frac{1}{4}$ drop of castor oil given, one every four hours until four were taken.

December 13. Abdomen tympanitic. Patient vomiting frequently. Pulse and temperature normal and abdomen not tender. Had several attacks of colicky pain during the day. Rectal tube passed thirteen inches into rectum and emulsion of turpentine, quinine and glycerine injected. Strychnia given by the mouth.

December 14. To overcome paralysis of the intestine and soften scybalaë the faradic current was used and the rectal tube used for injections every two hours with the patient in the knee-chest position. Water, glycerine and other liquids thus injected regurgitated by the side of the tube when force was used, but some fluid was retained. During the day the patient vomited faecal matter.

December 15. After vomiting stercoraceous matter, she had violent pain for fifteen or twenty minutes, and her strength failed rapidly. The extremities became cold, and the radial pulse extinct. Stimulants and heat were unavailing. A fine trochar passed into the abdomen allowed gas to escape, but did not improve her condition. She died at 12 o'clock of exhaustion and heart failure. She was perfectly conscious to the last, and during the whole course of her illness the temperature was normal, and she had little pain except a few sharp attacks lasting fifteen or twenty minutes.

It was subsequently learned from her sister, that she had been ill for more than a year, having had marked symptoms of stricture of the rectum. These symptoms had been purposely withheld.

The post-mortem was made by my assistant, Dr. W. P. Carr, who had charge of the case, with the following result:

Autopsy four hours after death. Rigor mortis. Body emaciated. Stercoraceous matter running from the mouth. Abdomen greatly distended and tympanitic.

Peritoneal cavity contains some gas, and about a gallon of dirty serum mixed with faecal matter. Intestines adherent to each other, to the omentum and to the abdominal parietes, many of the ad-

hesions being old and very firm. Sigmoid flexure of the rectum, at a point fourteen inches above the anus, attached to the posterior wall of the uterus by a dense cancerous mass; and the intestinal wall thickened and bent at this point so as to cause complete obstruction. Above the obstruction, the whole large intestine distended to a diameter of three inches by semi-fluid faeces, is in a gangrenous condition, and has to be handled with great care to prevent dropping to pieces. This condition most marked at the caecum, where the gut wall has sloughed through in places, allowing faeces to escape into the peritoneal cavity. Spleen, liver, and kidneys, of a light-blue slate color—tough and leathery.

DR. GEORGE WOODRUFF JOHNSTON reported a case of *Fibroid of the Uterus Treated by Electricity*.

DR. J. W. BOVEE read a paper on

THE USE OF ELECTRICITY IN THE TREATMENT OF DISEASES OF THE FEMALE PELVIC ORGANS.

(See p. 505.)

DR. J. R. BROMWELL said he had listened with much interest to the paper and report just read. As there was so much yet to learn regarding the application of electricity in the treatment of diseases peculiar to women, he asked pardon for any criticism he might make in the discussion. In making use of such indefinite terms as "galvanic or faradic current," and failing to measure, by accurate doses, the electricity used in the treatment of his cases, Dr. Bovee's paper was incomplete, and lacking in practical value as a guide to us in the treatment of similar cases hereafter. Positive and definite dosage is as necessary in the electrical treatment of disease as it is in any other method, and unless the intensity of the galvanic current used is accurately measured, by having a reliable milliamperemeter in the circuit, the treatment is uncertain, haphazard and empirical. It may be negative in its results, owing to no current passing, or it may be positively harmful from the unknown strength of the current. He had known patients treated for weeks by a most skillful physician, with one of the most improved batteries, before milliamperemeters were in general use, who thought he was giving his patient the full benefit of electrical treatment, but, upon placing a reliable milliamperemeter in the circuit, found, much to his astonishment, that it failed to register more than 3 or 4 milliamperes, with a minimum resistance. His battery had run down. With the battery in such condition, had he been guided by the number of cells which the patient could bear with comfort, or freedom from severe pain, as to the strength of current to be used in future treatment, and in his next case used a battery more recently charged, incalculable harm might have been the result, three or four cells of a recently charged acid battery giving as strong a current

as a dozen of one almost exhausted. There are few, if any, perfectly constant batteries in the market, all varying more or less, owing to the use to which the battery has been put since charged. There are other reasons, fully as weighty, why something more reliable than the number of cells used is necessary. The resistance offered by the tissues to the passage of the current is never the same in any two patients. The resistance offered by the electrodes varies also. The action of the poles, which are widely different one from the other, the size, shape, and material of the electrodes, as well as where and how they are placed, are subjects worthy of the most careful consideration and study, and should be noted in the record and report of all cases treated by electricity. Any haphazard use of the poles is unscientific, lacking in practical value, and unquestionably harmful, not to mention the perplexity to the operator when improperly used. Englemann, Apostoli and others have laid down such clear and positive rules for the guidance of the gynecologist in the use of electricity, that it would be inexcusable to occupy time by repeating them here.

The enthusiasm of a year ago, when batteries were selling here by the hundred, has calmed down, and electricity is settling down to a more reliable basis as a remedial or curative agent in the hands of the gynecologist. And if we hope for anything of practical value from it, or to place it upon an equal footing with other methods of treatment, or to formulate rules for our guidance in treating other cases, or to arrive at positive scientific conclusions regarding its value, we must work with it scientifically and not empirically, to fool ourselves and tickle the fancy of patients, who may be awed by the display of elaborate and costly apparatus into believing that something wonderful is being done.

Whilst not a cure-all, electricity has its proper place, and that an important one, in the treatment of diseases of women. Fibroids *will* diminish under proper electrical treatment, and thereby in some, if not all cases, do away with the necessity for the use of the knife. Some of their most dangerous symptoms are relieved by electricity; for instance, the troublesome hæmorrhage so often accompanying them. Frequently repeated applications, extending over months or years, are now abandoned for fewer applications, but higher intensities, 150 to 200 milliamperes, by electropuncture into the body of the tumor. The action of electricity upon neoplasms continues for some time after the treatment, consequently there is no need for very frequent applications, when properly applied. One year ago he was very enthusiastic over the results of the electrical treatment of cervical stenosis, but was sorry to say he had changed his mind, owing to all his cases returning to their original condition five or six months after stopping treatment.

To remove indurations and extravasations resulting from pelvic inflammation; to relieve ovarian pain, or, as Engelmann says, engorgement and accompanying pain; as an auxiliary in treating uterine displacements; to relieve some forms of constipation; and in the treatment of hysteroneurosis, electricity had given him good results.

The proper treatment for laceration of the cervix uteri is an operation. He thought, in regard to Dr. Bovee's first or second case, that all the good results secured were obtained by the operation, and not by the electrical treatment. Only a short time ago he operated upon a woman whose health was a perfect wreck, due to a badly lacerated cervix and its accompanying hyperplasia. She is now in perfect health, with no other treatment. There are idiosyncrasies forbidding the use of electricity which cannot be determined beforehand. He had seen a current no stronger than 3 or 4 milliamperes, the negative electrode in the uterus, the positive, a dispersing electrode 4×6 inches, cotton covered, on the abdomen, cause nausea, vertigo, and an inability to walk or stand for some time afterwards. When this condition exists, the only thing to be done is to abandon electricity in that case.

DR. JOS. TABER JOHNSON said he had not intended to speak upon this subject, as he was not yet quite sure what value to place upon electricity in gynecological cases, but would say a few words upon some of the points raised in the very interesting paper of Dr. Bovee. He would endorse all that Dr. Bromwell had so well said in his opening remarks in regard to exact dosage. To say that a patient had simply been treated by electricity was not enough in this day, when so much is known of the value and effect of the various kinds of currents, their strength, quality, quantity, intensity, length of séance, etc.

The treatment of extra-uterine pregnancy was a very large and important subject. It was one of the live and vexed questions now agitating the profession. There existed quite a difference of opinion in minds of equally good men as to the final value of electrolysis in these cases. It was claimed by some that in many of the instances reported as cures by this agent ectopic gestation had never been proven to exist; and abdominal surgeons were slowly coming to the conclusion that in the long run women stood a better chance of ultimate recovery to have their abdomens opened and the entire mass thoroughly and properly removed, than to run the gauntlet of many dangers from the presence of a dead foetus in their bellies for many months, and perhaps for years. In a recent discussion on this subject before the American Gynecological Society Dr. Johnstone, of Kentucky, had compared the foetus and its membranes or placenta killed by electricity to a dynamite cartridge ready to explode on provocation, and to finally destroy the patient by the

slow and exhausting process of ulceration and inflammation, or by the more rapid process of septicæmia.

The case mentioned by Dr. Bovee in his paper was a good illustration for both sides of this question. A distinguished gynecologist had reported it as a success for electrolysis. He thought he had killed the fœtus before the completion of the third month, and had thus saved his patient, but the subsequent history of the lady showed that she had been a terrible sufferer. She had septicæmia for weeks, and finally the bones of a five months' fœtus were with difficulty extracted through the vaginal roof, and very offensive discharges were escaping for a long time. If this patient had been operated on as soon as the diagnosis was made out she would probably have been cured in much less time, and would have suffered much less, and been in much less danger. While he had never operated on a case of this kind and was therefore not in a position to give advice, still he felt quite sure that, in this age, if he were certain of his diagnosis he would operate—if not certain he would resort to electricity, and he thought that was the position the profession would soon come to occupy.

The treatment of uterine fibroids by electricity was also a large subject. Its proper use demanded much knowledge of the subject, and skill in the manipulation of powerful batteries. It was claimed by Engelmann, Cutter, and Martin, in this country, and Apostoli, Keith, and others, in Europe that a few applications of strong currents was all that were required.

A deep puncture of a large fibroid with a properly insulated, sharp-pointed electrode—with a very large dispersing abdominal electrode—and a current of 200 or 250 milliamperes, was recommended. Its repetition was not considered safe oftener than once in a week or ten days, and from six to ten, or even a less number of applications was thought to be sufficient. In these operations accidents have occurred. Indeed one abdominal surgeon stated sometime ago that he had heard of more deaths from the use of electro-puncture than had occurred to him in the performance of pre-vaginal hysterectomy during the year. Many of the cases reported as having been treated by electrolysis he felt sure, from the meagre reports, had not had all the advantage which might follow the use of the skilled and scientific application of this valuable remedy, though, as stated, months had been devoted to it and several hundred applications had been made.

Then again, there are cases we are not yet able to determine beforehand, which not only fail to be benefited by electricity but, as Van de Warker recently pointed out, are actually made worse by it. The tumors are irritated by the repeated shocks, and either grow more rapidly or degenerate into fibro-cystic tumors. As it is uncertain

what tumors would be benefited by electricity he would recommend its use in all fibroids requiring any treatment, and not resort to surgical interference until a reasonable trial had demonstrated its failure.

Very few uterine fibroids of any size had yet been caused to disappear under its influence. The most that enthusiasts claim for it, is that some of their patients have been symptomatically cured. This is a great gain of course, but it cannot be yet successfully shown that the removal of these tumors will not be occasionally demanded in order to save life—or to make life at all endurable.

The author of the paper gave a number of cases of pelvic diseases in women which he thought had been cured by electricity, and yet in nearly all of the cases detailed many other remedies were used conjointly, and in some cervical and perineal lacerations were successfully operated on, so that we are left in doubt as to which remedy we should ascribe the cure. We all share in the hope expressed by the Doctor that electricity may drive the surgeon out of the female pelvis, and that ovaries and tubes heretofore sacrificed to his knife may hereafter be saved by this subtle and mysterious agent, but at present the distinction must be drawn between masses in the pelvis which are the products of inflammation, and collections of pus. Electricity may relieve the former and should be faithfully tried. It may relieve the pain and symptomatically cure the patient, and in many cases greatly benefit and entirely cure them by causing the complete absorption and disappearance of the pelvic mass, but in severe or long-continued chronic cases of pelvic abscess or pyo-salpinx, he thought it was trifling in the face of grave dangers to risk their rupture by resorting to a useless and perhaps harmful treatment. After a surgeon had become sure of his diagnosis in these cases, as in cases of ectopic gestation, he thought the knife much safer and better practice. The great need of the times was a more perfect mode of diagnosis. He did not see why an error in diagnosis was any more culpable in pelvic than in abdominal or thoracic disease, but yet it was so regarded by many.

Obstetrical Society of Philadelphia.

Thursday, March 7, 1889.

THEOPHILUS PARVIN, M.D., IN THE CHAIR.

(Concluded from page 607.)

DR. MONTGOMERY: We have become so enthusiastic in the field in which we are working as perhaps to overlook the dangers and difficulties that environ the way, and in our desire to defend and possibly to push forward our own work we

are sometimes led not to report our disasters. I think that Dr. Baldy has done us a kindness in dwelling on some of the disasters that may occur in abdominal operations. I am rather surprised to find that hernia is such a frequent lesion, in his experience. I have not found it so. The method of closing the wound suggested by Dr. Price, is the one that I have largely used, and unless Dr. Baldy has come across some case of which I do not know, I have never had a hernia in my experience. Fistulas with a constant discharge are exceedingly depressing and distressing. I have thought that drainage per vagina might be preferable where this accident is liable to occur. In such a case, if fistula did follow, it would not be so bad as if it were in the abdomen. I operated this fall on a case in which half a gallon of broken down blood was removed from a sac. The sac was drained, but death occurred in a few days. The post mortem showed an abscess below the sac, which would have been opened if vaginal drainage had been made. The after treatment is exceedingly important in many cases. These results are, no doubt, due to the fact that there still remains some diseased tissue about the ligament or uterus. Where the tubal disease is gonorrhœal it is very hard to tie close enough to the uterus and to remove all the pyogenic membrane. Even when we do, the inflammatory condition is still present in the uterus. The tendency of the extension of such inflammation to the pelvic tissue is, in many cases, the cause of after trouble.

DR. HIRST: In three cases he had lately to deal with, fistulæ directly followed laparotomy. One woman died a year after the operation in consequence of this complication. In one case of great interest a mass of ligature was fished up, but the fistula still remains. After waiting sometime he opened the vault of the vagina, behind the uterus, on to a point of a sound passed into the fistula from above. He did not think he could have opened the bladder, but a vesical fistula must have already existed, for when he cut through the vault of the vagina urine gushed out. A drainage tube was put through the whole track, but now four months have passed and the woman is dying. He should hardly think the use of nitric acid free from danger, used as recommended by Dr. Goodell.

DR. HOFFMAN: The paper of Dr. Baldy is iconoclastic. He looks at the matter from the wrong side. He collects a number of bad cases, and puts them forward as an illustration of all abdominal surgery. If we look at his collection in the light of the fact that each case represents but a small proportion of the work of each man, the percentage of bad cases will be found to be almost infinitesimal. I, myself, do not believe that, in the light of the bad showing which Dr. Baldy has made, if we to-morrow met with a case

such as Dr. Price has referred to, he would hesitate one moment to operate. He would trust to doing his work well, and would feel sure that in nine cases out of ten he would have a good result. A report in a journal a few days ago shows that a prominent operator caused two deaths, because he did not know how to tie the ligature. If a man does not know how to tie a ligature, that is no reason why abdominal surgery should be condemned. In my own experience he had never had a fistula follow these operations, nor has he had a hernia. Early rising is wrong. I know of an operator who boasted that his patient had gotten up at the end of a week, rode home and walked up two flight of stairs to her room.

DR. BALDY: I did not bring these cases forward as an objection to abdominal surgery, nor would they, nor many more, stay my hand if I found a case which required operation. My desire was to call direct attention to such accidents as these, and to stimulate our efforts to prevent their frequency. Nor is this, by any means, a complete list of all the cases on which I could put my hands. I could add dozens to the ones I have named. These cases have occurred in the hands of prominent men, men who profess to be teachers, and who number their cases by the twenties, fifties and hundreds. If we see such accidents in the hands of such men, we shall have more serious results in the hands of those less expert. Many cases of fistula can be avoided by care in the use of the drainage tube. Few surgeons understand how to properly take care of a tube. I cannot agree with Dr. Price that fistulæ always follow old fistula tracks, and is caused by diseased tissue left behind. In the majority of cases that I have seen, the diseased tissue has all been removed, and the track occurs through what was formerly clean, healthy tissue. I think that one common cause of hernia is the use of hæmostatic forceps. These bruise the tissues, and if allowed to remain on too long cannot but irreparably damage the vitality of the parts included between the blades. The less we use the forceps the better union we will get. It is a rare occurrence that I have to use more than one or two pairs, sometimes three. These are always removed in a few moments, in fact as soon as I open the peritoneal cavity. They are no longer needed, and often, if you are working through a small incision, are in the way. The fewer foreign bodies in and about the abdomen and abdominal wound the better for the patient and the easier for yourself. Cleanliness in all its details cannot be too strongly insisted on.

DR. E. P. BENARDY reported the history of a case of

SUPPRESSION OF URINE FOR SEVEN DAYS IN A CHILD TWO YEARS OLD, WITHOUT SERIOUS RESULT.

I report this case on account of its rarity. The case seems to me to be one of idiopathic suppression of urine. No assignable cause could be found, the little patient had enjoyed good health up to the time of its illness; never had measles, scarlet fever; in fact, none of the diseases of children; had an attack of catarrhal pneumonia when eight months old. I was requested to see the little patient on the evening of August 17, 1888. He had been ailing for the past few days, disinclined to play, when well of a lively disposition. Nausea was present, and vomiting had occurred during the day; tendency to loose stools, tongue clean white and flabby; skin white, eyes dull, pulse quick, no fever; ordered pepsine mixture. The next day, stomach more irritable, could not retain anything, had an attack of hiccough, pulse full and quick, no fever; was informed by the mother that the child had not passed any urine since the evening of August 1, 1888; ordered xx gtt. spt. æther nit. in warm water every hour or two. The following day (August 19, 1888), condition about the same. Passed about quarter of teaspoonful of pure blood from the penis. Examination over region of bladder showed no indication of fluid. Ordered a warm digitalis and flaxseed poultice to be applied over region of kidneys; a bitart. potassa mixture, with infusion digitalis, internally. August 20. No improvement. Did not sleep well during the night, eyes dull, twitchy movements of the muscles of the upper and lower extremities, easily started. August 21. Twitching increased, face of waxy hue, skin hot and dry, bowels opened several times. August 22 and 23. Skin burning hot, restless, sleepless, twitching excessive, head thrown back, eyes dull and heavy, face puffed, skin waxy, lips bloodless, no pain locally, even when pressure is made. August 24. Close examination over region of bladder shows it empty; 6 dry cups over kidneys and other treatment continued. Five hours later, passed a large quantity of clear urine. August 25. All nervous symptoms abating, eyes clear, stomach less irritable, passed urine of a light-yellow color. Improvement continued and patient discharged September 5, 1888.

The first thing that impresses us is the few dangerous symptoms apparent in the case. We know when complete suppression or even partial suppression of urine takes place in kidney troubles, how soon the case terminates in coma, convulsions and death. Leaving out the suppression of urine in the above case, there was no possible symptoms indicating the dangerous condition of the patient.

The literature on this subject is meagre, the only work on practice which mentions the subject is the sixth edition of George B. Wood's, on p. 676. On suppression of urine, he states, "By suppression of urine, as a title of a distinct af-

fection, is here meant either a complete cessation of the secretory action of the kidneys or a diminution of it so considerably as to be clearly morbid. It is undoubtedly in general, perhaps always, a mere symptom or effect of some other disease; but instances occur in which no other affection is obvious; and in these it must in the present state of our knowledge be considered as idiopathic." On p. 677—"a rare form of suppression, occurring apparently as an idiopathic affection, was described by Sir Henry Hallford, and has been occasionally met with by other practitioners. A person in apparently full health observes that he passes little or no water, but suffers from no other inconvenience than a feeling of restlessness and anxiety, with perhaps a little uneasiness in the lumbar region. After a day or two he is seized with a chill, or finding the urinary affection unabated, becomes somewhat uneasy and applies for medical advice. There is no fulness or pain over the pubes or in any part of the abdomen, no febrile action, no symptoms whatever calculated to call attention decidedly to the kidneys, except simply that of great deficiency or absence of urine. No effort on the part of the patient is of any avail in increasing the discharge, and the introduction of the catheter is followed by the escape of only a few drachms of a pale, somewhat turbid urine, usually coagulated by heat and of little density. In a short time, however, nausea comes on, and increases until vomiting results; and this continues afterwards to be one of the most troublesome symptoms. The patient becomes dull and torpid; the pulse, so far from being excited, is usually less frequent than in health. The urine, if not completely suppressed from the beginning, now becomes so. A urinous odor is sometimes exhaled from the surfaces. The dulness increases to drowsiness, with occasional signs of mental wandering or incoherence. Eructations and hiccoughs are not infrequent symptoms. In about four or five days the patient sinks into coma and dies afterwards in the midst of repeated convulsions."

Many of the above symptoms were well marked in our little patient's case. Notably, the condition of the pulse, no febrile reaction, or little if any. An absence of any dangerous symptoms likely to attract attention.

DR. CHAS. B. NOBLE reported

A CASE IN WHICH FOUR DRACHMS OF SQUIBB'S
F. E. ERGOT WAS ADMINISTERED EARLY
IN LABOR.

On the 30th December last I was called to attend Mrs. M. in labor with her second child. Vaginal examination showed that labor was just beginning. The os was slightly patulous. The vertex was presenting, but the head was not deeply engaged in the pelvis. Abdominal pal-

pation showed that the child lay in the first position. Mrs. M. had had malarial intermittent fever during the preceding week, but had treated herself with quinine. This being her "child day" I ordered her ten grs. of quinine, and at the same time wrote for an ounce of f. e. ergot to be used after the completion of labor. On my return, after a short absence, I was informed it was well I had come. One should never be surprised in obstetrical practice, but as I hastened my steps I reflected upon how easy it is to be mistaken in prognosis. Upon reaching the head of the stairway I heard a groan, as if issuing from one in the final throes of labor. On entering the bedroom I was met by the statement, "Oh, doctor! your medicine is bringing it," and was told that violent pains had come on about an hour after my departure. Questioning the patient about the medicine, I was told that her mother had given her three spoonfuls of the ergot—the mother knew the odor of ergot, and had taken it in many of her ten labors. The bottle of ergot was half empty. The violent, and as I now found continuous, pains were thus explained. Telling the patient that her mother had anticipated my wishes in the administration of the ergot, also that no harm had been done,—which, however, I was not so sure of—I proceeded to examine into the condition present. The woman was suffering agonies, the uterus was rigidly contracted, and it not possible to demonstrate any rhythmical relaxation. Internal examination showed the cervix fairly dilatable, but the os was not larger than a half dollar. The foetal heart could be plainly heard, but was beating faster than at my first visit. Evidently the condition was somewhat serious. I administered a hypodermic injection of $\frac{1}{4}$ gr. morphia with atropia to the patient, and then gave chloroform freely enough to suspend the reflex abdominal contractions, which were well marked. From the combined effect of these remedies an improvement was soon noticed; the continuous, or nearly continuous, ergotic contractions were replaced by rhythmical contractions; the cervix dilated rapidly. When the cervix was pretty well dilated I ruptured the membrane to hasten the labor, as the foetal heart beats were not so easily heard as before, and as the case was at that time easily under control of the forceps. I felt much inclined to apply the forceps to expedite delivery, but concluded that it was best to watch the foetal heart and interfere on indication. Labor progressed rapidly, and in little over an hour from the time chloroform was given the head was on the perineum. There it was arrested by a cicatricial band, extending across the vagina, the result of a laceration during the first labor. As it was evident that this would not stretch, and as the foetal heart sounds, while still to be heard were less distinctly audible, I made traction on

this band with two fingers until it gave way. The child was born soon after, without further laceration of the pelvic floor. When born it was in a state of *asphyxia livida*, but cried and breathed nicely after a little blood was squeezed from the cut end of the cord, and the dorsum rubbed, the head in the meantime being held dependent. The child subsequently did well; having, however, a hoarseness of the cry, which has not disappeared. The mother also did well ultimately, although she suffered from fever for some days. This case was of exceeding interest to me, as I had never before witnessed the full physiological effect of ergot on the parturient uterus. At this time such cases are seldom seen, and it is on this account that I have reported this one to this society. I hope it may prove interesting, at least to the younger members; and perhaps elicit discussion as to the true place of ergot in the therapeutics of obstetrics.

DR. LONGAKER had only seen the action of ergot on the parturient effort, in the hands of midwives, and then always with disastrous results. The character of the pains was as described by the reader of the paper, and when given in any large quantity the child was always still-born. From the spasmodic condition of the uterus the delivery of the placenta had been difficult in several cases. In one case an anæsthetic was required. The midwives always use powdered ergot. The only place for ergot was after labor was completed.

DR. VOGLER had used ergot freely, particularly where there was inertia, where the pains are irregular, and in hysterical women where we can not get them to regulate the pains. He had not had any of the difficulties spoken of. It was a common habit of midwives to use it freely. When properly used, particularly after the first stage, it is safe and of value. He always used Squibbs' ergot.

DR. HOFFMAN would ask those gentlemen who were connected with large lying-in hospitals, whether or not they found it necessary to use ergot after delivery. In his own practice he did not use it at all, and believed that we could get along as well without it as with it.

DR. J. PRICE simply continued the use of ergot at the Preston Retreat, which Dr. Goodell had used before him. At the termination of the third stage of labor the patient received a drachm of ergot. If the third stage of labor is a complete one he hardly thought that ergot was needed. He had known it to produce nausea in sensitive, irritable women.

DR. HIRST followed the same practice as Dr. Price. There is one use of ergot he had learned in Berlin. In cases where post-partum hæmorrhage was feared, it is customary there to give a syringefull of ergot hypodermically when the head is delivered. By the time that labor is

completed the action of ergot will be manifested.

DR. J. PRICE said that in the cities we know nothing of the disastrous results of the abuse of ergot. He had recently seen, in a mining town in the State, some frightful mutilations of the soft parts. He saw there more in one day than he had ever seen in the city, of these bad tears. On inquiry he found that it was a common custom to use ergot in the first stages of labor.

DR. BALDY thought that medical men were often tempted to overdose their patients and that the use of ergot was a case in point. Early in his practice he had used ergot after the third stage simply because he had been so taught. He found his patients complaining severely of after-pains and so was led to stop it. He had not since then seen a case which required its use.

DR. NOBLE was in the habit of giving ergot after labor was completed. He continued its use for some little time afterwards, not to produce after-pains, as happened to Dr. Baldy, but to prevent them, and had often saved himself the inconvenience of a second visit by so doing.

DR. W. H. PARRISH reported cases of

COMPRESSION, WITH THE FORCEPS, OF THE CORD
WHEN IT IS AROUND THE NECK OF
THE CHILD.

He said he believed that this occurred oftener than was supposed. During the last few years, in cases of still-birth, where the cord was around the neck he had tried to ascertain if this had been the cause of death. In two instances he had established to his own and others satisfaction that this was the cause of death. In the first instance the patient had been delivered five times previously, with four still-born children. The child was not very large and the delivery was an easy one, without any especial compression with the forceps. He was surprised to find the child was dead and could not be resuscitated. As the head was about being delivered he removed the forceps and took the cord from around the neck. He afterwards replaced the cord and re-applied the forceps, when it could be seen where the tip of the blades had compressed the cord. In the second case the child was small and the pelvis roomy. The only cause of delay was inertia. The cord was again replaced around the neck and the forceps applied. It could then be seen where the cord had been compressed between one blade and the mastoid process. There are some forceps more likely to produce this compression than are others. Where the tips of the blades closely approximate each other, and where the blades are long, compression of the cord is more likely to be produced. This objection applies to such forceps as those of Wallace, Davis, Hodge, Tarnier, and similar instruments. Compression is less likely to occur with forceps like those of Simpson's, where the space between the tips is greater. Com-

pression of the cord would be more apt to occur if one blade was applied at any point behind the ear. It is also apparent that with a small head the cord will be more readily compressed, if about the neck. If the forceps are applied after the head is in the pelvis and flexion has taken place, and the long axis of the forceps coincides with the occipito-mental diameter of the head the cord is safe. In any other method of applying the forceps the cord is not safe. If the forceps are applied early in labor there is more chance of compressing the cord than if we wait until the head is in the pelvis. It will also be noticed that if the forceps be not applied to the sides of the head, even after flexion, there is danger of compressing the cord. How many deaths occur in this way we do not know, as the forceps are usually taken off and the cord removed from the neck before delivery; unless the cord is replaced and the forceps re-applied there will be nothing to indicate the true cause of death.

DR. G. E. SHOEMAKER reported a case of

TUBERCULAR PERITONITIS.

Woman, æt. 23. Complained chiefly of pressure symptoms from ascites. Probable diagnosis of tubercular peritonitis made before operation, which was undertaken for this condition. Nodules felt in peritoneum of recto-uterine pouch, by the rectum. Short incision; flushing with boiled water; glass drainage for two days. Prompt recovery from operation. Patient considers herself entirely well four months afterward, but some fluid has re-accumulated. As an aid in the difficult diagnosis the importance of rectal examination of the peritoneum was pointed out, though it may not separate papilloma and malignant disease of the peritoneum from tubercular. The writer has collected 35 genuine American cases, not all reported. Of these 6 died immediately after the operation, and probably in consequence of it; a mortality of 17 per cent., as against one of not quite 7 per cent. in 88 non-malignant cases of exploratory laparotomy selected from those collected by Dr. Baldy, as having no disease of the peritoneum. Kümmel reports 39 European cases, with two deaths from the operation (elsewhere quoted as 6); while Fehling has collected 29 cases, with 6 deaths, probably the same cases as those referred to by Kümmel, with a different interpretation of the deaths. Only 11 of the writer's 35 cases are known to have remained well more than six months. He refers to the varieties of the disease as influencing prognosis, and also to the theories as to cause of cures. He reaches several conclusions, among them, that the best treatment is laparotomy, with boiled water flushing and drainage. No medication of the cavity. Also that the most that can be looked for in more than one-half the cases is temporary improvement, but that this is usually decided and far outweighs the risk of incision.

DR. J. M. BALDY was rather surprised that the speaker should have come to the conclusion that exploratory incision in tubercular peritonitis was more fatal than in other forms of disease. Some time ago in examining the records he had found 17 cases, with but 1 death, and that in no way due to the operation. The double-pneumonia case mentioned might safely be excluded also. Without excluding just such cases, the mortality in exploratory laparotomy for any and all causes, had arisen to over 16 per cent. in a list of 154 cases he had collected more than a year ago. Certainly it is not fair to attribute such deaths to the operation. For instance, one case had died from a piece of gut getting into the incision and becoming gangrenous.

DR. SHOEMAKER: Dr. Baldy did not collect all the cases of death for America. If we analyze our cases too closely we should get statistics which would not be fair to the patient.

FOREIGN CORRESPONDENCE.

LETTER FROM VIENNA.

(FROM OUR REGULAR CORRESPONDENT.)

Nerve Stretching for Tabes Dorsalis—False Anurism Mistaken for an Abscess—Ichthyosis Partialis—Fortal Ascites an Obstacle to Delivery—Herpes Zoster Caused by Arsenic—Relations of Neuralgias and Psychoses—Death of Prof. Soyka, of Prague, etc.

At a recent meeting of the Vienna Medizinisches Doctoren Collegium, Prof. Moriz Benedikt, our distinguished neuro-pathologist, read a very interesting and important paper on the stretching of the nerves in tabes dorsalis. The lecturer first brought forward a patient, 40 years old, who had come under his care about three and a half years ago (on June 8, 1885). The patient, at that time, presented symptoms of tabes dorsalis to so high a degree as the lecturer had never before observed them. The patient could stand upright only when supported at both sides of her body; in this situation she could also take some steps, but her gait had a pattering (loitering) character to a high degree. The patient also presented symptoms of ataxia in sedentary position. When the patient sat in a dark room, with her eyes closed, she began to wave, and fell from her chair. During the night the chamber of the patient had to be lighted, otherwise she was cast out of her bed when she turned over in it. Her tendon and papillary reflexes were, of course, quite extinguished. Deep anæsthesia of the skin, the muscles, and all the surfaces of the joints of the legs; anæsthesia of the fingers; ataxia of the arms; frequent and severe attacks of lancinating pains in the whole body. The disease under consideration was present for at least four years.

The lecturer, taking into account that the usual methods of galvano- and hydro-therapy—which were efficacious in numerous other cases—offered but little chance of recovery in such advanced cases as the one referred to, determined on performing the stretching of the right crural and the left sciatic nerves. The operation, in such a case, was, indeed, rather an act of therapeutic despair, but the success obtained surpassed all expectations. On the eleventh day after the operation, the patient left the hospital, and was immediately able to walk alone. The ataxia in the lying and sedentary positions had disappeared, leaving behind almost no trace of the former conditions.

Setting aside the considerable improvement which had been produced by the extension of the nerves, the advantage of this treatment also consisted in the fact that the patient now became accessible to the treatment with the galvanic current. Though ataxia of a high degree had still remained behind in the legs, and was now present, the patient was soon able to undertake great excursions without availing herself of a stick. The attacks of pain were particularly frequent and severe the first year, but they gradually and constantly became more rare, and during the last fifteen months, no single attack of pain had occurred. The last-mentioned fact was so much the more to be considered as the result of the operation of the extension of the nerves, as we knew by experience that galvanization had but little influence on the tabetic neuralgias. Prof. Benedikt had the opportunity of observing such an effect of the stretching of the nerves also in other cases. The patient was able to perform the domestic work, such as washing and cooking. The anæsthesia of the legs persisted in only a little ameliorated condition, and this was also true of the ataxia of the arms. The patient, however, was sitting and standing upright with closed eyes, surprisingly well.

Prof. Benedikt made some interesting critical remarks on the extension of the nerves in tabes dorsalis, and said, among other things, that he knew from numerous neuro-chirurgical experiences that the success of the surgical interference depended mainly on the fact whether the disease was of a recent date or not. It was just in the case of ataxia that it was still now difficult to operate upon recent cases, as the respective patients, being influenced by the ever-predominating views, withdrew from the operation. It was the conviction of the lecturer that the percentage of successes would increase considerably if the operation of the stretching of the nerves in tabes dorsalis was performed immediately after the exact diagnosis had been ascertained. Prof. Benedikt declared it to be his full conviction that, perhaps in the next generation, the non-operating at the beginning of the ataxia would be considered as a professional error. In obsolete and much pro-

gressed cases the chance was naturally much less, but that there was some chance was proved by the case brought before the Society.

Disadvantages to the patient from this treatment could now-a-days be no longer feared. In the first period of these operations, the fatal issue was not rare, and the lecturer himself had, in former times, the opportunity of observing some such bad results. The operation, however, as it was now practiced by Prof. Benedikt, was scarcely more dangerous than the extraction of a tooth or the cutting of corns (*clavus*).

If the operator would guarantee for the good success of the operation, he had to conduct the after-treatment for a long time, and continue his respective observations. The present doctrine of the inefficacy of the extension of the nerves in *tabes dorsalis* was chiefly due to the too short period of observation. If a doctrine had to be classical, *i. e.*, true for all times, it ought not to be in a hurry.

Dr. Hochenegg, Assistant to Prof. Albert, at the first surgical clinic of Vienna, brought forward before a recent meeting of the Imperial Royal Medical Society, of Vienna, a case in which he had mistaken false aneurism of the left femoral artery for an abscess, and had opened it. Küster had recently reported on similar cases, and in surgical literature there were hitherto only five such cases on record. The man, shown to the Society, 41 years old, had sustained, in 1878, a shooting-lesion in the middle of the left thigh, and at that time, after seven weeks' treatment, was dismissed from the hospital as cured; the bullet of the fire-arm had not been detected. In 1886 the patient complained of temporary pains in the thigh, and the ankylosis of the knee-joint also gave him some annoyance. In April, 1888, the pains in the left thigh became more severe, and the patient, moreover, stated to have felt, at the inner side of the left thigh, a solid tumor, which could be moved over the bone, and which disappeared at a later date.

On October 18 of last year the patient was admitted into the clinic of Prof. Albert, and stated that he had been taken ill under severe attacks of shivering, which repeated from twice to thrice a day; the solid tumor, the size of a walnut, had again appeared. On the examination of the patient a fluctuating tumor of the size of a fist was detected upwards of the internal condyle; the swelling was very painful on pressure, and the skin over it was dark, reddened; the surrounding parts were œdematous. Dr. Hochenegg made the diagnosis of an abscess of the periosteum, as all the symptoms pointed to such a condition. When he made the incision on the following day, he became aware of a blue membrane, which became torn; loose bloody clots and arterial blood discharged at the same time. After having applied the band of Esmarch Dr. Hochenegg emptied the

cavity and detected: 1, the bullet; and 2, a large piece of bone which stuck in the artery. The artery was ligatured above and below the cavity; the further course was very favorable. Disturbance of circulation was present only during the first few days; it, however, soon disappeared.

The patient had stated that he had worked hard on the day when he fell ill the last time; it was thus probable that the bullet, which was hidden, had sunk in the course of these years, and had driven the loose piece of bone into the artery. The tumor had repeatedly been palpated for ascertaining the position of the arteries, but on no occasion could pulsation or vesicular murmur be found. All these occurrences explained the diagnostic error.

At a recent meeting of the Royal Society of Physicians of Budapesth, Dr. S. Róna showed a child, 15 months old, which was affected with *ichthyosis partialis*. He had observed the child for four months without noticing any change in the process during this period. The first eruption with red patches in the face occurred during the third month of life of the child. In the fifth month the skin over the back and the sacral region became reddened and squamous, and soon afterwards these changes also supervened on the extremities. The *ichthyosis* was to be met with very rarely at such an age; according to Hebra, the *ichthyotic* process did not set in until the second year of life, and even then it appeared only as *pytirisiasis*, or *ichthyosis simplex*. It was interesting to see how, in the case brought forward before the Society, the cutis had already begun to shrink to such a degree that *sclerodactylia* was already present on the hands and feet. It seemed that the nearer the beginning of the *ichthyosis* was to the foetal life, the more dangerous this dermatosis was. In the first child of the mother of the little patient, which was born two years ago, *ichthyosis universalis* occurred in the second year of age, owing to which the child was quasi-transformed into a mummy, and perished.

Dr. Hubert Peters, assistant to Prof. Gustavus Braun, recently reported, before the Vienna Obstetrico-Gynaecological Society, on a case of *ascitic dropsy* to a high degree, which formed an obstacle in parturition. The case was particularly interesting owing to the fact that the obstacles in delivery due to pathological enlargement of the infantile abdomen were exceedingly rare. The woman was admitted into the clinic as a *bipara*, and stated that the first birth was normal, and the foetus well nourished. According to the statements of the mother, the rupture of the foetal membranes supervened some hours before her admission into the hospital, when about four litres of amniotic liquid escaped. The abdomen, which was before excessively extended, thus diminished to only a little degree.

On the external examination the abdomen was

found to be still much extended, and the palpation revealed the presence of quite particular conditions. At the bottom of the uterus a large, hard and movable skull could be felt; over the entrance of the pelvis, apparently small buttocks were felt. In the whole body of the uterus (corpus uteri) there was uniform tension; the fluctuation was not distinct. The sounds of the heart of the fetus could be distinctly heard on the left side of the bottom of the uterus near the skull. The back of the fetus could nowhere be felt.

The internal examination showed the following conditions: The uterine orifice had the size of 5 centimetres; both the feet were to be felt there. In the course of some hours the feet, owing to slight labors, gradually advanced as far as the vulva, and it could be stated that the size of the feet stood in no normal proportion with the size of the skull and the abdomen felt on palpation. As there was no sure evidence of the presence of a twin fetus, and taking into account the frequent combination of hydramnion and monstrosity of the fetus, they thought in the clinic of such a combination. The extraction of the fetus was deferred for awhile, owing to the general weakness of the mother. On making the extraction the small buttocks were drawn as far as the entrance of the pelvis, when an absolute obstacle for further extraction proved to be present. The introduction of the whole hand of the operator into the lower part of the uterus revealed the fact that the obstacle was due to a colossal enlargement of the abdomen. As there was no possibility for making the extraction of the non-lessened abdomen, puncture of the abdomen was resorted to. In the absence of a sufficiently long trocar, Dr. Peters determined on performing perforation by means of the perforatorium of Nägele, which could be done with some difficulty. About $2\frac{1}{2}$ litres of a serous, cloudy fluid escaped, when the extraction could be performed without any inconvenience.

The child had died during the birth, and after the ascitic fluid had discharged it still weighed 4,000 grams; hence, in intra-uterine life it had the weight of 6,500 grams. The mother of the child left the hospital in perfect health.

At a recent meeting of the Royal Society of Physicians of Budapesth, Dr. Johann Bókai reported on a case of zoster, owing to arsenic. He showed a boy who had taken arsenic owing to chorea minor, and in whom herpes zoster pectoralis had developed on the twenty-eighth day after the use of the drug. Dr. Bókai had already observed similar cases, and particularly he had met with three such cases in 1883. Hutchinson, in 1868, had observed eight such cases. In the *Medical Times* of 1869, seven cases had been published in which herpes zoster had supervened after the use of arsenic taken for different reasons. Basing on these cases, Dr. Bókai considered the

herpes zoster, in the case under consideration, as being due to the use of arsenic, so much the more as the drug had, in this case, been administered for from twenty-eight to forty-five days, and the quantity of the solutio arsenicalis Fowleri taken amounted to from 257 to 450 drops. Except for slight conjunctivitis, no other symptoms of poisoning with arsenic were present.

Dr. Anton, Assistant to Hofrath Prof. Meynert, at the clinic for psychical diseases at Vienna, read a paper on the Relations of Neuralgias to Psychoses before the Imperial Royal Society of Physicians, of Vienna. He gave a detailed account of two cases of supra-orbital neuralgia in individuals who were affected with hereditary psycho-pathia, and in whom the neuralgia became associated with temporary attacks of loss of consciousness, and with complicated movements (biting, beating, stamping), and compulsory ideas of murder and suicide. There was, moreover, complete amnesia and permanent psychical depression; the whole complex of symptoms resembled very much that of epileptic mania.

As the bromide of potassium, antipyrin, anti-febrin, phenacetin, etc., proved inefficacious, faradization was resorted to with the best success. After the application of the electric douche with a gradually augmenting intensity, the neuralgic attacks completely disappeared; the relapses were easily combated, and both the patients were dismissed as cured, and had also become able to work.

The lecturer then discussed the relations of the neuralgias to the above-mentioned complicated movements, which he considered as being of a reflex character; and also their relations to psychoses, pointing out that with the removal of the peripheral irritation, the disturbances in the central organ could equally be removed.

Docens Dr. Eisenschütz directed the attention of the audience to an experiment which he had made in such cases. If he made an injection of morphine on a man who suffered from such neuralgias, the small and tense pulse became again soft and full, so that he could determine, by the palpation of the radial artery, the moment at which the injection had exerted its effect.

Dr. Anton confirmed the correctness of this observation, which he also tried to prove by the demonstration of the pulse-curves of the above-mentioned two patients before and after faradization; from the pulse-curve alone it became evident whether the patient was free of pains or whether he was suffering from pains.

Dr. Soyka, Professor of Hygiene at the Prague Medical Faculty, and a distinguished scholar in the domain of hygiene and bacteriology, recently died by suicide in Prague. This suicide was due to excessive nervous irritation. Soyka was descended from a psycho-pathic family.

Prof. Kahler, of Prague, the eminent neuropathologist, was intrusted with the second chair

for Internal Medicine at the Vienna Medical Faculty, which had become vacant by the death of Prof. v. Bamberger.

Vienna, March, 1889.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York Academy of Medicine—Section on Practice—Simulo in the Treatment of Epilepsy—The Significance of the Crepitant Rôle, etc.

At the last meeting of the Section on Practice of the Academy of Medicine, Dr. M. Allen Starr read a report of the new drug *simulo* in the treatment of epilepsy. Like others, his attention was first directed to the subject by the article of Dr. W. H. White, which appeared in *The Lancet* in March, 1888, and he gave a *résumé* of the observations of White and also those of Eulenberg, of Berlin, published in August, 1888.

White reported seven cases treated by this agent, all of them being cases in which renal fits occurred every week. In the first case neither *simulo* or bromide was of any particular benefit. In the other cases there was considerable improvement under the use of *simulo*, and in case number seven, which was one of unilateral spasms with paresis, the spasm was very much relieved by the drug, although it had not been affected by large doses of the bromides. He concluded his report by stating that he would not have it thought that *simulo* will cure epilepsy, but he believed that an improvement occurs under its use, and that it may be used as a substitute for the bromides when these produce ill effects.

Eulenberg reported that *simulo* appeared to have no effect whatever in cases of hysteria, and that in three out of four cases of epilepsy in which he employed it its effect was found to be weaker and less certain than moderate doses of the bromides (90 to 120 grains daily). In the fourth case, in which the use of the bromides for years had not succeeded in reducing the number of attacks below four to eight in a week, the effect of maximum doses of tincture of *simulo* (six drachms daily), was to reduce the number of attacks to two to five in a week. Subsequently he combined the bromides with *simulo*, giving a half dose of each, and the effect was at first as favorable as under the use of large doses of *simulo* alone. The frequency of the attacks gradually increased, however, and finally the patient was put back upon the bromides alone. Eulenberg's conclusion was that while *simulo* is not without use, it is decidedly inferior to the bromides in its effects.

Like White and Eulenberg, Dr. Starr used the tincture of *simulo*, in doses of from half a drachm to two drachms three times a day; and he gave

it in seven cases of extreme severity, which seemed to offer the conditions for a fair test of the powers of the drug. The first patient was a female 48 years of age, in whom the administration of the bromides was attended with very unpleasant effects. While the *simulo* appeared to prevent for a time the occurrence of an attack of grand mal, it had no effect whatever upon the numerous attacks of petit mal and hysteria from which the woman suffered. The second patient was a girl 12 years old, who had epilepsy from infancy, her attacks consisting of slight convulsions with loss of consciousness and loss of urine. The bromides had been used without any marked effect. Under the use of *simulo*, however, the attacks became reduced from about five a week to about three a week, while their severity diminished, and she no longer lost control of the bladder.

The third patient was a girl of 16, who had suffered from epilepsy, with both grand mal and petit mal attacks for two years. The *simulo* had no effect upon the petit mal attacks, but diminished the grand mal attacks from sixty-three in a month to four in a month. The month after this drug was discontinued, however, while taking bromide, chloral and belladonna the attacks of petit mal became very much reduced in number, and she had no grand mal attack whatever.

In the fourth, fifth and sixth cases *simulo* was given with apparently very fair results, although its administration was not kept up for any great length of time. The principal reason that Dr. Starr did not give the remedy a more extended trial was the costliness of the tincture of *simulo*, the price of which, he said, was 25 cents an ounce; and this constituted a serious objection in dispensary practice.

The seventh and last patient was a young man of 19, who had had precursive epilepsy since the age of seven; the attacks consisting of a sudden pallor followed by a flushing of the face and a sudden uncontrollable movement of the body. These attacks had never been controlled by bromides, and during the year 1888 they averaged one hundred a month. Under the use of nitroglycerine combined with bromides they were reduced one-half, but *simulo* had no effect upon them. In addition this patient had nocturnal convulsions, and upon these attacks of grand mal the *simulo* was found to have a decided effect, although this was pronounced as that produced by bromides.

The conclusions drawn by Dr. Starr from these cases are as follows:

1. Tincture of *simulo* has no effect upon attacks of hysteria-epilepsy, or upon the hysterical state.
2. It has no effect in modifying the frequency or severity of attacks of petit mal or of precursive epilepsy.

3. It has some effect in modifying the frequency and severity of attacks of grand mal, but is inferior in this respect to the bromides.

4. In cases where, for any reason, it is deemed necessary to suspend the bromides, it would be well to substitute simulo for them.

He then went on to say that there seemed to be no ill effects from the use of the drug. He found no evidence of change in the rate or character of the pulse or respiration, or other physiological effects, produced by the doses employed, and he thought it would be well to increase the dose progressively until 1, or even 2 ozs. were used daily. The suggestion of Eulenberg that the active principle of the drug should be obtained and employed he thought worthy of consideration.

The only one present at the meeting who appeared to have given simulo a trial was Dr. Landon Carter Gray, and he asserted that he had found it practically useless. He said he had employed it both alone and in combination, and he had obtained from it no results except such as one could get in almost any case of epilepsy by changing the drugs given. This was merely a temporary effect, and the same might be obtained by a hundred other agents. He had, therefore, discontinued the use of simulo, as it had in his hands proved so nearly useless that he did not feel sufficiently encouraged to pursue his investigations concerning it any further.

On the same evening Dr. F. W. Johnson read a paper on "The Significance of the Crepitant Râle," and the following are the conclusions to which his study of this subject has led him:

1. The crepitant râle is not pathognomonic of pneumonia.

2. It is heard also in dry pleurisy, in bronchopneumonia, and in phthisis.

3. There is a strong probability that it is almost always due to pleuritic inflammation.

4. The question as to whether it is heard also in œdema of the lungs and pulmonary apoplexy is unsettled.

As regards the mechanism of the crepitant râle the three leading theories are:

1. That of Laennec, according to which it is due to the bursting of fine bubbles of air through a viscid fluid in the air vesicles.

2. That favored by Walsh, that the sound is due to forcible distension of the air vesicles, whose walls are rendered stiff by a glutinous exudation.

3. That advocated by Dr. James R. Leaming, that it is produced by the rubbing together of the two surfaces of an inflamed pleura which is coated with fibrin.

All the older writers and most of the modern ones, said Dr. Jackson, favor the intrapulmonary origin of the râle; while many of the more recent writers and teachers, in New York at least, ascribe it to pleuritic exudation. Nearly all modern writers agree, however, in the opinion that it is not

pathognomonic of pneumonia. He then proceeded to give a *résumé* of a number of authorities, including Guttman, Eichorst and Jurgensen in Germany, Germain Sée in France, Reynolds, Samson Gemmell, W. Douglas Powell and Sir Andrew Clark in England, and Flint, Leaming, Loomis, Delafield and others in this country. He mentioned that Sir Andrew Clark, in his lectures on "Some Points in the Clinical History of Primitive Dry Pleuritis," distinctly referred the fine râles which he heard to changes in the pleura, and not in the lungs, and verified his statements with autopsies.

Dr. Jackson quoted at some length from Dr. James R. Leaming, of this city, who, as is well known, has for a number of years taught the doctrine of the interpleural origin of râles, which, although at first received with a storm of opposition, has at length been accepted, in part at least, by a considerable number of the profession. According to Dr. Leaming, the crepitant râle, although having its mechanism within the pleural cavity, is a valuable sign of pneumonia and of phthisis, though not pathognomonic, while it may exist in the absence of both, and either may be present without it. Dr. Alfred L. Loomis, Dr. Jackson said, regards the crepitant râles heard at the end of inspiration in the first stage of pneumonia as usually due to pleuritic crepitation, and considers the râle of pulmonary œdema as subcrepitant in character. Dr. Francis Delafield taught that the crepitant râle is heard in pneumonia, in phthisis, and in dry pleurisy, and that it is probably a friction sound. Also that the stage of congestion in pneumonia may give a subcrepitant râle and a crepitant râle if there be pleurisy early, and that the crepitant râle may persist in the stage of complete hepatization if the lung was enough.

Among the writers cited was Dr. J. West Roosevelt, assistant pathologist to the Roosevelt Hospital. In Wood's Handbook of the Medical Sciences he attributes the crepitant râle to the three possible sources before mentioned, but regards the rubbing together of the inflamed pleural surfaces as the most common; if, indeed, it be not really the only cause. Dr. Jackson went on to say that the exact study of the phenomena of râles demands that the sound shall have been heard at the shortest possible period before death, its position on the chest wall and acoustic characters carefully noted, and then that the lungs and pleurae be subjected to a critical post-mortem examination with reference to these data. In the cases which he has studied in this way he has found that when a fine râle was heard, on inspiration some pleural changes were commonly noted at or near the site of the râle, but not always of such a character as to be convincing. In an extended clinical experience, a point of view from which he said he could speak with more confi-

dence, he has noted some differences from the rules laid down in the text-books. Thus, he finds that the crepitant râle is not always persistent (sometimes disappearing and reappearing alternately in a short space of time), and the extremely fine, extremely dry sound occurring in a great number of crackles is a rare form of crepitant râle, whether associated with pneumonia or any other pathological condition. Of the brilliant, explosive, abundantly crackling type of râle, that which is slightly moist and a trifle more coarse in quality has seemed to him to be far more common, and he has frequently observed it in acute lobar pneumonia, acute dry pleurisy and phthisis, and less frequently in broncho-pneumonia.

Furthermore, Dr. Jackson has been struck with the number of patients who apply for treatment whose chief or only complaint is of pain in the chest and in whom careful examination reveals as physical signs a little dulness and a variable number of fine râles, either crepitant or sub-crepitant in character. These sounds are superficial, localized in a small area, and increased by cough or deep inspiration, and so common has he found this condition, which he regards as due either to old or recent fibrin on the pleura, or to pleuritic adhesions, that he rarely makes the diagnosis of intercostal neuralgia or muscular rheumatism. While it might be urged, he said, that these sounds are not crepitant râles, they corresponded in everything but the element of a "shower of crackles" to the definition, and they certainly constituted a very fine râle heard on inspiration. He has sometimes heard the crepitant râle persist during the second stage of pneumonia, though the number of crackles was much less than in the first stage, and in some instances it required strained attention to hear it. In conclusion, he stated that he had always regarded the râle of œdema of the lung as a subcrepitant râle of peculiarly liquid character.

In the discussion which followed the paper Dr. Roosevelt said that he had been correctly quoted by Dr. Jackson, but since the publication of the article referred to he had seen reason to modify his views to some extent. It was a matter of some importance, he thought, to understand just what was meant by a crepitant râle. If Leonard's definition was to be accepted, that it consists of a series of sharp, crackling sounds heard at the end of respiration, and apparently near the ear, it had to be admitted that the crepitant râle is met with in phthisis, in severe bronchitis, in pneumonia, in dry pleurisy, and in œdema of the lungs. As to the cause of the production of this râle, he did not feel prepared to express any opinion.

There could be no doubt he said, that there was a distinct movement of air in the vesicles. In pneumonia we talked of the solidified lung as not moving at all; but either the lung did move or else the pleura was immovable. A solidified

lung could be expanded to some extent, since the smaller bronchi occupied a considerable space. He would be inclined to deny, therefore, that the crepitant râle cannot be produced in the air vesicles. There could be no doubt, however, that the râle was also heard in pleurisy; and hence it was necessary to depend on other signs to differentiate between pleurisy and pneumonia. As to Dr. Leaming's teachings, he thought it was a great pity that so much of what was of positive value should be mixed up with that which was not proven. Frequently in the dead-house he had found the pleura perfectly healthy in cases in which a few hours before the crepitant râle was distinctly heard. Yet, at the same time, he believed that he was perfectly right in attributing the greater number of crepitant râles to the pleura.

P. B. P.

Object of State Regulation of Practice.

Dear Sir:—It is doubtful if all other combined opposition to medical legislation has, or still exerts, effects equally fatal to its success, as the one false and mistaken idea that it is chiefly in the interest of the profession itself. It has been the great argument of every nostrum nabob and medical fraud, which the promoters of medical legal reform have been compelled to confront. But when the friends and advocates of such reform in the profession, so far misinterpret its true animus, purpose and operation, as to indorse this fatal error, one is scarcely able to repress an indignant protest.

A medical society at Green Bay, Wis., in a recent report of its action, saw fit to rise from its average to aid in lifting a medical act through the General Assembly of that State the following: "Whereas, for the better protection of the medical profession," etc. Permitting the phrase, Mr. Editor, what more complete "give away" could have been perpetrated—not to say fatuous proceeding—by intelligent gentlemen, than this is? When this legislation, of which that of Wisconsin is a duplicate, is in operation, all are aware that its benefits incur to the public, as no law can be obtained whose terms do not, in a degree, brace up existing incompetent practitioners to those of the qualified profession. It must be a present sacrifice to secure a future reward. No greater success can be warranted by reason, than our ability to bar the entrance of the public sheep fold against the wolves of the quack kingdom. Those already within cannot be expelled, but must be tolerated until the elimination of time completes their removal. Attempts to cleanse the body politic from all evil of this kind, and at one stroke, has been the cause of the array of mis-carriages lining the past course of medical legal history.

Yours respectfully,

Independence, Ia.

H. C. MARKHAM, M.D.

MISCELLANY.

ON VACCINATION.—*The Bristol Medico-Chirurgical Journal*, England (March, 1889), reviewing some books on Vaccination, says: "Vaccination has got into undeserved discredit by the way in which its details have been carried out by thoughtless or careless operators. It is much to be desired that all vaccinations should be taken out of the hands of private practitioners, and allowed to be performed only by public vaccinators. The difficulties in the way of this much-needed reform could be easily overcome. Vaccination, as an important branch of preventive medicine, should be under Government inspection. Not only is there great difficulty, privately, in obtaining trustworthy lymph, often necessitating a resort to unauthorized sources, but, in deference to the sentimental objections of ill-informed parents, there are many practitioners of good social standing who are not ashamed, by vaccinating by one or two small insertions, to earn a cheap popularity, although thereby a serious danger is added to the life of a child thus made unfit to successfully resist a possible attack of small-pox. There are also doctors of a lower grade who set themselves up in opposition to the public vaccinator, and, by performing the operation for a degrading fee of sixpence or a shilling, with a vaccination also much reduced in quantity—and therefore in quality—draw off a considerable number of ignorant mothers from the Vaccination Station, the efficiency of which becomes impaired through a greatly diminished attendance seriously limiting the selection of lymph, and the proper management of which becomes wellnigh impossible.

"In the light of Marston's figures (Seaton's Handbook of Vaccination, ed. 1868, p. 216; McVail, p. 36; Woodward, p. 15), confirmed by all after-experience, conduct such as this, in various walks of professional life, seems little short of criminal, and has now reached such appalling magnitude as to urgently call for Government interference.

"If vaccination is to be a reality, and not merely something which leads its subjects into a fools' paradise, the State must ensure, by an inspection through properly qualified officials, that it is carried out in all ranks of society in a thoroughly efficient manner."

DR. THOMAS LINN, an American physician who has resided for many years in Paris, has changed his residence to No. 161 Rue de la Paix. Dr. Linn is well known as the Paris correspondent of the *Philadelphia Medical Times*.

LETTERS RECEIVED.

Mrs. Anna Gregg, Ft. Wayne, Ind.; Dr. B. A. Houser, Somerset, Ind.; Dr. Wm. Freeman, North Madison, Ind.; Chas. E. Thomas, Ann Arbor, Mich.; Dr. Boyd Cornick, Mascoutah, Ill.; Provident Chemical Works, St. Louis, Dr. Wm. B. Canfield, Baltimore, Md.; Dr. J. B. Murdoch, Pittsburg, Pa.; Dr. J. B. Walker, Philadelphia, Pa.; Londonderry Lithia Co., Nashua, N. H.; R. W. Gardner, New York; Dr. Rich. J. Duglison, Philadelphia; Dr. J. W. Trabert, Annville, Pa.; Dr. A. L. Hummel, Philadelphia; Canton Surgical and Dental Chair Co., Canton, O.; S. S. White Dental Mfg. Co., Philadelphia; Lambert Pharmacal Co., St. Louis; Dr. J. G. Carpenter, Stanford, Ky.; A. E. Walesby, Louisville, Ky.; Dr. H. M. Mixer, New Hampton, Ia.; Dr. W. A. B. Sellman, Baltimore, Md.; I. Haldenstein, New York; State Journal Co., Lincoln, Neb.; Dr. Karl von Ruck, Asheville, N. C.; Publishers' Commercial Union, Chicago; Henry Bernd & Co., St. Louis; Dr. Chas. H. Dalton, Boston; Chas. H. Phillips Chemical Co., New York; Dr. W. M. Harsha, Decatur, Ill.; C. A. Hamann, Philadelphia; C. D. Mansfield, Louisville, Ky.; Dr. Cyrus Kendrick, Litchfield Corners,

Me.; Dr. T. E. Porter, St. Joseph, Mo.; J. & A. R. Reid, Providence, R. I.; Drs. Gallagher and Moore, Philadelphia; Dr. R. H. Dinegar, New York; Dr. J. M. Dunham, Columbus, O.; Dr. J. L. Johnson, F. Shoemaker, Washington; Dr. E. Fletcher Ingals, Chicago; G. P. Putnam's Sons, New York; American Surgical Association; Dr. J. Chris. Lange, Pittsburgh, Pa.; Dr. Henry W. Brown, Saundersville, Mass.; Dr. Chas. F. Disen, Minneapolis, Minn.; F. M. Acree, Louisville, Ky.; Dr. H. L. Horn, Arlington, Md.; Case, Lockwood & Brainard Co., Hartford, Conn.; R. Wade Savage, London, Eng.; Dr. Henry O. Marcy, Boston; Dr. G. Fraenstein, New York; Dr. Wm. Osler, Philadelphia; Danchy & Co., New York; J. Truman Burdick & Co., Newport, R. I.; Farwell & Rhines, Watertown, N. Y.; Edwin Rose, Buffalo, N. Y.; Reed & Carnrick, New York; Dr. G. Gundrum, Escondido, Cal.; F. A. Field, Rutland, Vt.; Dr. W. J. Asdale, Pittsburgh, Pa.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from April 20, 1889, to April 26, 1889.

By direction of the Secretary of War, the retirement from active service this date, by operation of law, of Col. David L. Magruder, Surgeon, under the provisions of the Act of Congress approved June 30, 1882, is announced. Par. 4, S. O. 94, A. G. O., April 23, 1889.

PROMOTIONS.

Col. Edward P. Vollum, Surgeon U. S. Army, promoted to Surgeon U. S. A. with rank of Colonel, from April 23, 1889.

Lt.-Col. Joseph P. Wright, Surgeon U. S. Army, promoted to Surgeon U. S. Army with rank of Lieut. Colonel, from April 23, 1889.

Major Ezra Woodruff, Surgeon U. S. Army, promoted to Surgeon with rank of Major, from April 23, 1889.

Lt.-Col. A. K. Smith, Surgeon U. S. Army, reports address of new Army Building, as at No. 39 Whitehall St., New York City. April 18, 1889.

Pursuant to instructions contained in letter from A. G. O., Washington, April 13, the following named medical officers will assemble with troops in New York Harbor on the 27th inst., prepared for field service in connection with New York Centennial parade: Major Robert H. White, Surgeon U. S. Army; Capt. Clarence Ewen, Asst. Surgeon U. S. Army; Capt. Jno. J. Cochran, Asst. Surgeon U. S. Army; and First Lieut. Chas. B. Ewing, Asst. Surgeon U. S. Army. S. O. 90, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, April 19, 1889.

By direction of the Secretary of War, Capt. Ezra Woodruff, Asst. Surgeon, is relieved from duty at Ft. Missoula, Mont., and will report in person to the commanding officer, Ft. Monroe, Va., for temporary duty at that post. Par. 14, S. O. 72, A. G. O., April 20, 1889.

First Lieut. Freeman N. Walker, Asst. Surgeon, is granted leave of absence for four months on surgeon's certificate of disability, with permission to leave the Dept. of Texas, by direction of the Secretary of War. Par. 12, S. O. 92, A. G. O., April 20, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending April 27, 1889.

Asst. Surgeon Geo. B. Wilson, detached from the Naval Hospital, Mare Island, and to the "Iroquois."

P. A. Surgeon F. J. B. Cordeiro, detached from the "Vandalia," and to the Naval Hospital, Mare Island, Cal.

Surgeon John F. Bransford, ordered to the "Iroquois."

Asst. Surgeon Edward R. Stitt, ordered to the Bureau of Medicine and Surgery, Washington, D. C.

Surgeon N. M. Perebee, ordered to Naval Academy, Annapolis, Md., for examination of candidates for admission to the Academy.

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ADDRESS.

LICENSE TO PRACTICE.

An Address delivered to the Medico-Chirological Faculty of Maryland.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY, BALTIMORE.

Mr. President and Gentlemen:—I shall not offer any apology for making the "License to Practice" the subject of my address, as it is one in which all, high and low, rich and poor, lay and professional, are deeply interested. I am fully aware that it is a subject thought to require the delicate handling which we are accustomed to give to topics arousing heated discussion, and upon which diametrically opposite views are held. Still as the question agitating the profession to-day, it requires to be persistently and thoroughly ventilated, and those who have opinions on the subject should speak out in no uncertain tones. I have not had an opportunity of ascertaining the feelings of the members of the ancient and honorable Faculty on the question, one which touches closely I believe, certain vested right of this body; but I have learned that three years ago a Bill for a State Board was rejected, so I presume the matter has often been before you. I am the more emboldened, therefore, to speak freely, knowing full well that I address men who have given time and thought to the problem, who know its difficulties, and who appreciate its importance.

In this country, a man can follow the vocation he pleases, subject only to such restrictions as may be necessary for the public welfare. The right to regulate the practice of medicine rests with the State, and, I believe it is acknowledged that this right comes within that general police power which extends protection to the life and limb of the citizens. At present, this power is very variously exercised in different States. In many, no regulations whatever exist. Any one who wishes, irrespective of qualifications, can practice. In a majority, however, there are restrictions which demand evidence on the part of the practitioner that he has studied, for a longer or a shorter period, at an incorporated school. Practically, the rule prevails that with a diploma from a chartered school, he can begin at once,

without any hindrance other than that relating to registration. The educational duties of the State do not here extend beyond the system of common and normal schools, though, in a few, higher university work is also undertaken. Special education does not receive support from the public revenues. Schools of law, medicine, engineering, theology, all the special branches of study are, private enterprises, chartered by the State and maintained by fees from pupils, or by the munificence of private friends. Certain privileges are granted to these Institutions by the State, the most important of which, in the medical school, is the recognition of the diploma as a qualification for practice. So unsatisfactory, however, has this system proved, that there is on the part of the public, and of the profession, a growing sense of the necessity for radical changes as shown by the number of States in which bills have either been already passed, or have been before the legislatures dealing with the problem.

It is universally conceded that the basis of legislation is the necessity of protecting the people against the depredations of ignorant graduates and of quacks. The aim is to divide a minimum standard of qualification to be exacted of all persons who desire to follow the calling of physician and surgeon.

While we find legislatures everywhere willing to support enactments necessary for the safety of the public, they will not, (and it is right that they should not) support class legislation; and herein lies one of the chief difficulties.

If we look around upon those engaged in the practice of medicine, we find that an overwhelming proportion belongs to the regular, or so-called old school. A second small division professes to follow the precepts of Hahnemann; while a third, still smaller, neither one thing nor the other, but a little of both, professes a judicious eclecticism. These three bodies have schools, medical journals, and in each State a more or less complete organization. In the eyes of the law (which rightly disregards medical theories), all are equal. This unhappy division of the body medical is not limited to professional matters, but is complicated with ethical questions of the highest moment. The outcome of it all has been that there are hostile camps and bitter war.

The homœopathists, and the eclectics will, I think, concur in the necessity of a full and proper curriculum of study in the great branches of medicine. Anatomy, physiology, chemistry, histology, embryology, medicine, surgery, obstetrics, gynæcology, and medical jurisprudence know no "isms." The differences only become glaring when we touch the subject of therapeutics, a subject in which among members of each of the so-called schools the greatest individual differences of opinion exist. So strong, however, is the feeling (largely an ethical one), that the divergence of opinion on this one branch separates absolutely the different classes of practitioners from each other; nor do not say that this should not be so, while antiquated dogmas are professed in opposition to a rational and a free science.

We cannot, however, escape from the important fact that in the eyes of the law we all stand equal, and if we wish legislation for the protection of the public, we have got to ask for it together, not singly. I know that this is gall and wormwood to many; at the bitterness of it the gorge rises; but it is a question which has to be met fairly and squarely. When we think of the nine or ten subjects which we have in common, we may surely, in the interest of the public, bury animosities and agree to differ on the question of therapeutics.

In connection with the licence to practice, there are, it seems to me, three courses open: 1. A continuance in the plan at present, widely prevailing, which makes the college the judge of the fitness of the candidate; and State supervision is only so far exercised that the diplomas are *vised*, and registered, if from legally incorporated schools. 2. The appointment by the State or by parties so deputed of a board of examiners which shall, irrespective of diplomas examine all candidates for the license. 3. The organization of the entire profession in each State into an electorate which shall send representatives to a central parliament, having full control of all questions relating to medical education, examination and registration.

These various places are at present in operation in different parts of the Continent; let us see how they work.

And first of the colleges which have practically had a monopoly for years, as the diploma has carried with it the privilege of registration.

To all intents and purposes the medical schools of the country are private organizations, managed in the interest of the professors, who, with scarcely an exception, have direct pecuniary interests in the size of the classes. The greater number of students and graduates, the larger the fees, and the higher the income of the teachers. The running expenses and the interest on the moneys expended for the teaching-plan are the first call, after which the balance is divided. These chartered

corporations, are wholly irresponsible, without supervision by the State, the profession or the public. It would not be difficult, without fear of just rebuke, to bring a railing accusation against them for persistently acting in their own, and not in the interests of the public. But the time has passed for this. Yet, it is surprising to think that so many men, distinguished in every way in their profession, cultured and liberal, still cling to, and even advocate, the advantages of an irresponsibility, which has made the American *system* of medical education a byword among the nations.

Let me not be misunderstood. These very men are, in many instances, those whom we delight to honor, with names which will last as long as American medicine. Yet, to an unbiased mind, there can be no hesitation in affirming that the system which has been permitted to develop in our midst has done, nay, is doing, irreparable wrong. But, it may be urged, on the part of the schools, that they are what the profession wishes. The stream does not rise higher than its source. I do not think that this holds good at present. It does not require a very wide professional acquaintance to gather, that there is now developing, throughout the length and breadth of the land, an earnest desire to support a higher medical education, and this is borne out by the success which has attended the tentative efforts in this direction of the larger schools, which have made a three years' college course compulsory.

Here, let me remind those doctors who talk fondly of medical reform, of the selfishness of schoolmen, of the difficulty in getting colleges to advance, that very much rests with the degree of support given by them to those schools which really make sacrifices for the elevation of the standard. If, for instance, the University of Pennsylvania or Harvard, or the College of Physicians and Surgeons in New York, or the University of Maryland, were to extend to four full years the course of study, there would be at each of these schools, without the slightest doubt, a falling off in income from the reduction in the number of students. So much so, that it would be impossible to run these larger establishments at their present full equipment. Manifestly, it would be suicidal, without the guarantee of outside aid, to imperil corporate interests of such magnitude. But, if on the other hand, those physicians throughout the country, who strongly favor a four years' course as the minimum in which a man can obtain a reasonable knowledge of the science and art of medicine, if these men were to direct their students to such institutions, (and in this matter we all know how much influence the physician has), the problem would be at once solved.

Too often college faculties seem stricken with timidity in the presence of suggestions to lengthen the curriculum and to raise the standard.

Yet, a superficial study of the history of the movement since 1871 and 1872, when Harvard so nobly took the lead, should be convincing to all that even from the lowest considerations the advance should be successful. You have but to look to the condition of the schools which have been in the van, to see that the bread cast upon the waters has already been found. I do not say that these schools are in all instances the most prosperous numerically. Heaven forbid; that is not a standard of merit. But, take the laboratory equipment, the measure in which they fulfill medical requirements, the practical teaching and the development of clinical instruction, and I say without fear of contradiction, that these schools have met with an ample and a just reward. And yet, these are the very schools which clamor loudest for further advance, showing how dangerous it is to arouse the slumbering conscience and to abandon the conviction that a two session course is sufficient for the average American student. But in spite of all that has been done, in spite of the agitation which has been so active during the past ten years, the sad truth must be told that a large percentage of doctors are graduated annually after only two sessions of study.

On paper, the two session schools almost universally demand three years; one of which, it is stated, may be with a physician. Now, it is notorious in these schools that a large majority of the men receive the degree at the end of the second college year, and it is just as notorious that not 5 per cent. of the cases in which a preliminary year of study has been passed with a physician is a *bona-fide* period of medical instruction. It practically amounts to this, that a man enters without any fair preliminary test as to elementary education, say on the first of October of the present year, and eighteen months from date, or rather seventeen months, sometime in March, 1891, he will be let loose upon the commonwealth. Eighteen months in which to master one of the highest, as it certainly is one of the most difficult of the professions which man is called upon to practice! That, gentlemen, these are facts, sad facts, each one of you knows. Yet so blind do men seem in this matter, so wedded to this pernicious system, that I have known physicians in large practice, able, cultivated men, contributors to medical literature, standing high in the esteem of their brethren, permit their sons to follow out the curriculum. Picture if you can the mental condition of such a graduate; an incoherent jumble of theories, a chaotic assortment of what he would call practical tips. But this question has its tragic side, which completely overshadows everything else. It makes one's blood boil to think that there are sent out year by year scores of men called doctors, who have never attended a case of labor, and who are ut-

terly ignorant of the ordinary every day diseases which they may be called upon to treat, men who may never have seen the inside of a hospital ward, and who would not know Scarpa's space from the sole of the foot. Yet, gentlemen, this is the disgraceful condition which some school men have the audacity to ask you to perpetuate; to continue to intrust interests so sacred to hands so unworthy. Is it to be wondered, considering this shocking laxity, that there is a wide-spread distrust in the public of professional education, and that quacks, charlatans and impostors possess the land?

But the handwriting is on the wall, the interpretation has been read, and the prophesy indeed is in course of fulfillment. It needs not the vision of a son of Beor to advertise that within ten years in scarcely a State of the Union will the degree carry with it the privilege of registration; and with this removal of the kingdom from the schools will dawn a new era for the profession in this country. This will happen when unrestricted competition between the colleges, and the total absence of professional and State restraint are things of the past.

Under the second plan the entire question of registration is placed in the hands of examiners, appointed by the Governor or by the State societies. Such a board to be effective must constitute the only portal to practice. The practical working, as shown in North Carolina, Virginia and Minnesota, presents no difficulty, and it constitutes an effective barrier against the inroads of poorly qualified graduates. Within a few years this measure will be widely adopted. It has certain advantages in a simple mechanism, and in clearly defined duties. But the powers are too limited, and there is no control of education preliminary and special, such as comes strictly within the power of the profession in each State.

The record of the Virginia Examining Board for the four years ending October, 1888, is an excellent illustration of the good which may be done. Of 240 candidates examined 54, or 22 per cent., were rejected, a percentage which might be increased considerably if practical examinations were instituted in the practical branches.

Ultimately I believe a more elaborate plan will prevail more difficult to organize, but practical and possessing the great advantage of giving the control of the profession into the hands of the practitioners, and of doing away forever with the minority rule of the college.

Theoretically, there can be no question (particularly in democratic communities) that a State board should be elective, not appointed by the Governor or the societies. An elective board is in reality a medical parliament, which should take cognizance of all matters relating to medical education, and, perhaps, though of this I am not so sure, of questions of public health within the

State. The assembly districts or other territorial divisions which might be made, would send one, or perhaps two, representatives to the board (depending upon the professional population in each district). The electors would be constituted by all practitioners irrespective of schools, which had registered at a certain date. A man who had practiced, even without a diploma, for a certain time would, under these circumstances, have to be recognized and permitted to register.

The Governor of the State would issue the first warrant for the election, which would subsequently be the prerogative of the executive of the board. It might be necessary, at first, to have, from each district, members returned from at least three of the divisions which at present constitute practitioners. The representation should be per capita, the number of constituents in each electorate to be previously arranged. The term of the board should be, at least, four or five years, and members should be eligible for reelection. Conducted by ballot there should not be the slightest difficulty in carrying out such an election. There would be, of course, active canvassing, and perhaps, many nominated from one district. Though there would be opportunities for political trickery and gerrymandering, I think, on the whole, it would be found that an election could be conducted with tolerable purity. The universities and schools would have full representation on the board. To such an organization, I believe, might be intrusted the control of all matters relating to medical education in the State. It would correspond to the law societies, and to the synods and conferences of the various religious denominations. The powers of such a board would be accurately defined by legislation, and should relate first to preliminary education; secondly, to the examination and registration of candidates for the license to practice; and thirdly, the control of all matters relating to discipline with the profession. The necessary expense would be met—first, by the fees paid by the candidates for examination; secondly, by a small annual tax levied upon all registered practitioners. Such a body could look forward hopefully to a permanent establishment in each State, with buildings suitably equipped for examination, and with every possible provision for conducting, in an orderly and systematic manner, the business of the profession.

The first important function of the board would be the regulation of the minimum standard of education required in entering the profession. It is perfectly legitimate that the profession should say, through its representatives, what should be the qualifications of a candidate who desires to enter upon the study of medicine. In law this holds good; why should it not be so with us. A guarantee of uniformity would thus be given which cannot be expected in the schools.

The examiners at the preliminary test should be independent teachers, not professional men, and the examinations could be arranged in different parts of the State. The period of study would date from the passing of this preliminary examination. Such a measure would effectually prevent the entrance of men whose education was such that they could not subsequently grapple with the subjects of professional study.

The examination and registration of candidates would constitute the most important function of the board.

Upon no question will there be a greater diversity of opinion than upon the selection of examiners. The opposition to State Boards on the part of school men is very largely based on the doubt which they have as to the selection of thoroughly equipped men for this work. On the part of the profession such a feeling exists that would prevent the appointment by the board as examiner on his own subject a teacher in any school. The difficulties, however, are not insuperable. With the proper system of numbers for written examinations, and with two examiners at every oral, there could not be the slightest objection, so far as I can see, to the selection of school men as examiners in certain of the branches. In anatomy, chemistry, physiology and pathology, that is to say in all the scientific branches, it would be almost impossible to secure from the general profession examiners with the necessary training. It certainly would be most unjust to well-equipped students from the laboratories of our first-class schools to subject them to examinations on these branches by men who had crammed on purpose from two or three of the most recent text books. On the other hand, in the more practical subjects, there are certainly in each State to be found men fully capable of conducting the necessary test work. I have the honor to know personally, in many States of the Union, men to whom I would intrust with the utmost confidence, the examination of my students in the theory and practice of medicine, and I doubt not that in surgery, midwifery, gynecology, and in the polyglot subject of therapeutics men equally able in these departments would be forthcoming.

There need not be any difficulty in the existing differences between the various schools of practice. All students would be examined in the great primary divisions, anatomy, physiology and chemistry, and so also in pathology and morbid anatomy, in obstetrics and in operative gynecology and in medical jurisprudence.

The examinations in these branches would be uniform. In therapeutics only would there be separate tests for regulars, homeopathists and eclectics. On application, the student would have to indicate for which of the three he wished to apply, and, if successful, would be placed in

one of the three divisions of the State Register. I am free to confess that this scheme may, to some, seem Utopian, but I am firmly convinced that the majority of those who hear me to-day will live to see State Boards organized on this, or upon a modified plan.

With the third function of the Board, viz., that relating to discipline, I need not detain you further than to say that in any effective act there should be penal clauses giving authority to prosecute irregular and unlicensed practitioners; to remove for cause a name from the register; and to exercise such additional powers as might, in the opinion of the framers of the bill, be thought justifiable.

Now the entire feasibility of such a scheme is illustrated by the professional history of the Province of Ontario. Up to 1865-6 a Licensing Board appointed by the State which dealt, however, in examinations only in the case of candidates without diplomas, but to all intents and purposes it was simply a Board of Registration to which holders of degrees presented themselves, paid a small fee and obtained the license. The schools practically controlled it.

In the session of 1865-6 the profession of the Province sought incorporation, and the Act was framed which, with certain important modifications, at present remains in force. It practically hands over to the profession, through the elected representatives, the management of their own affairs so far as they relate to preliminary and professional examinations and certain disciplinary enactments. In spite of the strenuous opposition on the part of many who felt that it was a most degrading thing thus to lop the important privilege hitherto held by the Universities which enabled graduates to obtain the license without further examination. In spite of dissensions and dissatisfaction, such as are almost inevitable in connection with a new organization, the Board has persisted in its good work and to-day, after 23 years of existence, it has a record of which the entire profession of the Province is most justly proud. On no point was opposition more bitter or more prolonged than on the admission to representation of members of the homeopathic and eclectic bodies. My very first introduction to the profession was a visit with my preceptor to the committee room of the House, in which certain amendments to the Act were being pushed by the colleges. I can recall with vividness the heated dispute with reference to this very question of admission of the homeopaths and eclectics to proportionate representation. It was thought to be a defilement even to come near unto the unclean thing. But wise counsels prevailed, and representation remained general, as it was, though it is true, I believe, that the eclectic body no longer has practitioners enough in the Provinces to send a representative.

The influence which this organization has exerted has been in the highest degree beneficial, and the schools now accept the inevitable with a perfectly good grace. The Board possesses a magnificent central building in which to conduct the examinations, with offices for registration and rooms for a Provincial Library. The fees from the examinations and a small annual tax levied on each registered practitioner has proved a source of ample income. The same condition, with modifications, exists in the other British Provinces.

To those who look upon such a scheme as I speak of as Utopian, and urge difficulties on account of the deeply-seated prejudices and wide dissensions existing between the schools, I might say that the condition here is practically the same in kind, though perhaps greater in degree, to that which existed in the British Provinces prior to 1866. What has been done there so successfully can be equally well accomplished in every State of the Union.

The great gain is, the public guarantee that when a man has received the license to practice, he has, at any rate, the elements of a solid education; that he knows the structure and functions of the human body; and that he is capable of meeting the ordinary emergencies of professional life. Such a plan removes the irresponsibility of the schools, establishes a uniform curriculum of studies in each, and exacts a minimum time for theoretical and practical work.

The difference is simply this, that under our present system independent and irresponsible schools have the upper hand and dictate terms to the profession and to the public, and do whatever they please. With an organized profession, through its representatives in session, the schools take the second place—they exist for the profession and the public. There can be no question as to the great superiority of this method. It is essentially democratic, and should commend itself in every particular to the profession of this country. It is infinitely superior to the second method carried on at present in many of the States, although the Examining Board nominated by the Governor or the societies are better than unrestricted registration. While the interests of corporations are fully represented in this system, they have not the overshadowing power such as was granted in Great Britain by the recent Act in which it seems almost ridiculous to think that only six representatives from the profession at large found a place in a Board, and this number grudgingly granted as a privilege not as a right.

It does not do, however, to underestimate the difficulties which have to be encountered in any attempt to organize these Boards. It may be premature in many States. The profession, I have frequently heard it stated, are not ready for this. This, from my own observation, I should

doubt. I believe the general body of the profession when it fully understands the question cannot but agree that the method is in reality a safe one. I am sure that the public, through the press, will heartily concur in any plan which will guarantee that the practitioners to whom they entrust life and limb shall be educated men.

Opposition will be strongest on the one hand from the schools, which look askance at any measure likely to interfere with their prerogatives, and on the other hand the members of the homeopathic and eclectic fraternity, not unnaturally, dread lest in any such arrangement a full measure of justice should not be meted them.

The antagonism of the schools is not, I believe, serious. To be effectual they would have to be united. It is notorious that many of the Faculties, or perhaps, more truly, many of the prominent members in each Faculty, urgently support State Boards, and a return to the old and normal condition in which a university degree partook somewhat of the nature of an honor, and had no relation to the license to practice. The opposition from the homeopaths and eclectics need not be serious. They profess to seek for better things and to look for a higher standard of examination. If we are truly anxious to deal fairly with them in a matter, not relating so much to our own as to the interests of the public, I am quite sure that we shall find them ready and willing to join hands in such a laudable work. Nor must we talk to them of concessions, but acknowledge plainly their rights, which before the law are the same as our own.

To move surely we must move slowly, but firmly and fearlessly, confident in the justness of our claims on behalf of the profession and of the public, and animated solely with a desire to secure to the humblest citizen of this great country in the day of his tribulation and in the hour of his need, a skill worthy of the enlightened humanity which we profess, and of the noble calling in which we have the honor to serve.

ORIGINAL ARTICLES.

THE BETA-NAPHTHOL VS. HYDRO-NAPHTHOL CONTENTION.

Read in the Section of Therapeutics, at the Meeting of the British Medical Association at Glasgow, August, 1888

BY JOHN V. SHOEMAKER, A.M., M.D.,
OF PHILADELPHIA, PA.

"Who shall decide when doctors disagree?" says the poet, with as close accordance with a general truth as reason and poetry require. Yet we shall always find, even in the case of the disagreement of doctors, criteria by which rational decision may be reached. In the first place, the opin-

ions of individual doctors, as well as of persons not doctors, are not of equal weight, as emanating from men of learning, conversant with the class of subjects under consideration, and qualified to be experimentally satisfied, if question of experiment there be, of the results which they have obtained. In the next place, personal feeling and pecuniary interest may enter into the determination of questions and, giving bias, place the decider of them in a non-judicial attitude of mind. Other things being equal, the fact of the majority, and that a large majority, on one side, is an element enabling an outside investigator to reach, even amidst a mass of conflicting testimony, a verdict by which he can abide. If, in addition to acceptance of the truth of a proposition upon these general principles, we ourselves have personally investigated a subject susceptible of the test of experiment, have faithfully experimented, and have found our results to coincide with all that has been deduced by the majority of unbiased eminent experts, it is impossible for the mind to rest more securely in conviction. And this is the confidence, I confess, in which my mind reposes with reference to the contention regarding the respective merits of beta-naphthol and hydro-naphthol, for the reason that it rests upon the foundations described.

I have for several years used beta-naphthol in my practice, and coincidentally have kept myself informed with regard to the investigations of it going on in both Europe and America, growing out of the discussion concerning the relative merits of beta-naphthol and hydro-naphthol.

My first printed contribution to the subject was read on October 17, 1883, before the Philadelphia County Medical Society, and published November 3 of the same year, in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*. My second paper was a brief one, published editorially in *The Medical Register*. My third paper was read at the late meeting of the American Medical Association in Cincinnati, and appeared in *THE JOURNAL*. In the first of these papers, written on the basis of a statement of chemical analysis by Dr. Justus Wolff, I cited many instances of treatment in my own practice with beta-naphthol, both of administration of the drug to myself personally and to patients, adding testimony in its favor from the practice of other physicians; everything pointing to the fact that it is not especially toxic in character.

The gist of my second paper was that, as Dr. Justus Wolff had gone over to the enemy, and as the contention regarding the toxic character of beta-naphthol seemed to be leading in America to little determinate results, the best way to settle the question was, I thought, to subject the action of the drug to a trial from the results of which there could be no evasion.

The third paper entered more fully into the

subject, and made one suggestion as to the cause of the impurity of hydro-naphthol. Curious to relate, it is this hydro-naphthol, which has been shown to be an impure form of beta-naphthol, that is upheld by its advocates to the disparagement of its purer representative. Now arises a question of circumstantial evidence. Who are the chief supporters of hydro-naphthol as against beta-naphthol? Undoubtedly, those persons in New York having a sort of proprietary interest in the manufacture of hydro-naphthol, and to them must be added that class of physicians which obtain their information as to new preparations from hearsay and from advertisements; the class which, having its counterpart in every profession, is that which is readiest to give certificates of excellence. It may moreover be cogently asked, What name but one, prominently associated with chemistry is also associated with the laudation of the quasi-proprietary hydro-naphthol of New York? And lastly, we may well think it strange, that this excepted chemist seemed to ascertain the poisonous character of beta-naphthol simultaneously with his discovery of hydro-naphthol, and yet that would not seem to enter into the chemical constitution of the new discovery. These facts are strange coincidences if they are mere coincidences, and do not point to underlying facts.

For the sake of argument, however, reckon them, if one will, mere coincidences, and let them be acquitted of ulterior significance if they can stand being contrasted with the facts to be mentioned. Some of the most eminent of living chemists, men who cannot by any possibility be shown to be biased in the slightest degree, either as to beta-naphthol as compared with hydro-naphthol, or as to anything else, save as concerning the searching for, finding and promulgation of the truth, emphatically declare, under the signature and seal of their own great reputations, that the vaunting of hydro-naphthol as what it has been affirmed to be by its advocates is erroneous, and as what it has been affirmed to be, in comparison with beta-naphthol, as erroneous again.

If these allegations are correct, decision must be rendered on both counts against hydro-naphthol. Mr. Merck, of Darmstadt; Professor Jacobson, of Berlin; M. Bouchardat, of Paris; the physicians of the Pathological Institute of Giesen, Germany; and Drs. Hoffmann and Endemann, of New York, represent either directly or inferentially the opponents of hydro-naphthol; and have all given the most conclusive reasons for our rejection of it.

It has been shown by them that, barring the impurity of hydro-naphthol, the difference in chemical constitution between it and beta-naphthol is *nil*. In the *Pharmaceutische Rundschau*, of New York, we Americans find, either in the original or republished form, much bearing upon the subject. In Vol. V, No. 4, p. 82 of that jour-

nal there is a long article from Mr. Merck, regarding what he describes as the so-called hydro-naphthol. In Vol. V, No. 7, p. 154 of the same journal, there is another article by him. In the first of these he gives us two pages of discussion of the subject, chemical constitution, experiments on animals, etc., concluding with the expression that danger from the application of beta-naphthol instead of hydro-naphthol is out of the question, unless it be to the profits of those interested in hydro-naphthol; that in regard to this danger it is, in the meanwhile, well for the public to know, so that no one, through ignorance of the true state of the case may be deceived by employing the falsely named, impure beta-naphthol instead of the pure ones; and that, the chemical and physiological identity of beta-naphthol with the so-called hydro-naphthol being well known, Seabury & Johnson, whether wittingly or unwittingly, have placed on the market an impure beta-naphthol under another name.

Returning to the charge, in the second article noted, Mr. Merck says flatly: "I have in this affair here said my last word, and confidently trust that thanks are due me for having contributed to the clearing up and settling of the hydro-naphthol swindle." Nothing but an *embarras de richesse* in Mr. Merck's two articles prevents me from drawing at length upon the evidence which he gives in support of his severe conclusion.

In Vol. VI, No. 2, pages 40 and 41 of the *Rundschau*, we Americans also found republished Professor Bouchardat's investigations, which are summed up in the *Pharmaceutical Record* substantially as follows: Beta-naphthol is absolutely safe in any form that it is likely to be administered. Experiments on animals prove conclusively that it would require nearly $\frac{1}{2}$ lb. of it taken internally to produce fatal results in a healthy person weighing 150 lbs. Tested by injected into the veins of animals, as a 1 per cent. solution, the amount determined as requisite to produce death in adult human being of 150 lbs. weight, was 400 grains.

Ten grains in a quart of water will prevent the growth of any organisms. It has five times the antiseptic power of carbolic acid, four times that of creosote, three times that of iodoform, five times that of iodol, four times that of naphthalin, but has only one-twentieth the destructive energy of biniodide of mercury.

Dr. Jacobson is to be found on the same side, equally determined not to lend, even by silence, countenance to a deception of the less educated among the medical fraternity, and through them, of the public. Drs. Hoffman and Endemann, writing in America, are of course best known to such physicians in that country; but if their weight is disputed, that of the other authorities cited can certainly not be impugned. I shall be forgiven, with such authorities as I have on my side, as compared with those on the other side, for

adhering to my convictions as to the merits of beta-naphthol as compared with hydro-naphthol. Contrast the following lucid statement by Mr. Louis Genois, in the *Medical Times* (American), of June 15, 1888, with that which follows it, from the pen of Dr. Justus Wolff in the *International Journal of Surgery and Antiseptics*, of April, 1888.

"Naphthols," says Mr. Genois, "are compounds derived from naphthalin by the substitution of one molecule of hydroxyl (HO) for one atom of hydrogen.

"Naphthalin is regarded as a derivative of benzol, its graphic formula representing it as two benzol rings adhering by one side. The hydrogen atoms of naphthalin are divided into two groups, in one of which they are written with a small h, and in the other with a capital H. Now, derivatives of naphthalin in which the (small) hydrogen atoms are replaced by other elements or radicals are called alpha derivatives, (such are compounds containing chlorine, bromine, nitric acid, etc.), while those in which the (capital H) hydrogen atoms are replaced by other elements or radicals are called beta derivatives. When, however, naphthalin is treated with sulphuric acid, both varieties are produced, unless very elevated or long-continued heat be applied, in which case only the beta variety results. The usual method of manufacture is as follows: Naphthalin and sulphuric acid are heated together for several hours, the mixture poured into a large quantity of hot water, the excess of the naphthalin filtered off, and the solution saturated with lead carbonate. On evaporation the beta salt crystallizes out first, the alpha salt last. The former is soluble in boiling alcohol, the latter is not; hence they are easily separated.

"From these lead naphthalin sulphonates the respective acids are prepared, and from the acids fused with an alkali, two naphthols are made—the alpha and beta, and these are the only possible naphthols. Dr. Justus Wolff, however, tells us, in his paper, above mentioned, that he has, besides the two well-known alpha and beta naphthols, met with two more naphthols similar to the above ones, but distinct from them in their chemical constitution and some of their properties and reactions. He says the four naphthols, then, are as follows: Alpha-hydro-naphthol, alpha-anhydro-naphthol, commonly called alpha-naphthol, beta-hydro-naphthol, named in commerce (that is named by himself), hydronaphthol, beta-anhydro-naphthol, called in commerce beta-naphthol."

Here is a case of disagreement among doctors, with a vengeance. Physicians quote M. Bouchardat against Dr. Justus Wolff, and in this very article Dr. Wolff quotes M. Bouchardat as verifying his results. Mr. Louis Genois informs us

that alpha and beta are the only possible naphthols, and Dr. Wolff says he has found four.

How is one to know, in these mysterious days, what is true and what is false in even chemistry? Perhaps there is some capacity in matter, even when not tenanted by mind, to cast its astral and other psychical body in a quite fortuitous manner, never to be resumed, even to the view of one versed in the most occult mysteries of esoteric Buddhism; and perhaps these hydro things may never turn up again, or perhaps they may gradually materialize from the ghost of print.

The situation amounts simply to this, that physicians who vaunt the superiority of the so-called hydro-naphthol over beta-naphthol betray their ignorance of the literature of the subject, of the fact that some of the most distinguished of living chemists have given conclusive evidence of its being an impure form of beta-naphthol, and that no one of equal authority has testified to the contrary, while at the same time there is every reason to believe that the heralding of the so-called hydro-naphthol as a genuine article, superior to every similar product in the market, is purely a commercial speculation.

My own investigations on the subject, necessarily confining themselves to the questions of reaction and physiological effects, and covering many years, have proved conclusively to me that the opponents of beta-naphthol know nothing of the subject except through venders of hydro-naphthol, whose procedure Mr. Merck well characterized in a single word. Supported in my own conclusions by the able investigations that have taken place in Europe, supplemented by those of some of my own countrymen, I am perfectly satisfied to rest the case with its mere statement.

HYDROCELE OF THE HERNIAL SAC.

Read before the Medical Society of the District of Columbia, January 10, 1888.

BY THOMAS M. NORTON, M.D.,

OF WASHINGTON, D. C.

R. H., of this city, male, æt. 6 years, came under my care July 26, 1888, the following history being given by his mother: Several days previous he had fallen from a tree, but hung to a lower limb by his clothes and hands until she could run out and take him down. He complained of pain in his left groin all of the afternoon, lying down most of the time; and on putting him to bed she found a small tumor at the spot where pain was located. But thinking he had simply bruised himself, she felt no uneasiness. The next morning the tumor had disappeared; returning, however, soon after he arose, though giving him no pain. It remained all day, subsiding again during the night. Such conditions continued for several days, when she noticed the tumor was

gradually increasing in size; then for the first time becoming alarmed, called me to see him.

Examination revealed a small direct inguinal hernia, which issued from the external abdominal ring and extended about halfway to the bottom of the scrotum. Impulse on coughing was well marked, and the hernia could be easily reduced by taxis, giving forth on reduction the peculiar hernial "slip" or "flop." The gut passed through the external ring directly backwards into the abdominal cavity, not following the course of the inguinal canal to the internal ring, as it would in an indirect or oblique inguinal hernia.

It is probable the hernia had been forming behind the external ring for some time past, and was merely forced through that opening by the strain to which patient had been recently subjected. I sent him to a truss maker, who fitted him with a truss which perfectly retained the rupture. It inconvenienced him for a day or two until he became accustomed to the pressure, after which it gave him no trouble. He remained under my observation for two weeks, at the end of which time he had resumed all of his former habits, running around and playing with the neighboring children just as he had done before the appearance of the hernia.

About the middle of August he accompanied his mother to Boston, and I heard no more of the case until September 2, when I was again called to see him. His mother informed me that, a few days after arriving in Boston, he had complained one evening of the truss hurting him, but she, thinking it imagination, had made him sleep in it that night. The next morning she found the groin very much inflamed and swollen, being quite painful to the touch, and concluding the truss had slipped out of place, she readjusted it and allowed him to get up, but the pain soon becoming so intense, she was compelled to remove the truss and put him to bed. The inflammation continued for several days, but gradually subsided, leaving, as she thought, the hernia just as it was before, excepting that it did not go in during the night as it had previously done. His bowels were open all of the time, and his appetite was good, his food causing him no inconvenience.

On examination I found a small semi-elastic, irreducible tumor, about the same size and shape and occupying the same location as the hernia. Impulse on coughing was absent, nor was the tumor influenced in any way by straining movements and changes of position on the part of patient.

As there was no history of constipation or interference with the digestive organs, obstructed and strangulated herniæ were excluded, hence the diagnosis lay between hydrocele, varicocele, enlarged inguinal gland, and hæmatocele. For as both testicles were in place, undescended testis was not taken into consideration.

The regularity of the surface of the tumor, its unchangeableness when patient was in recumbent posture, and the absence of the characteristic "cordy" feeling, excluded varicocele. Its position and shape, together with the history of the case, antagonized a diagnosis of enlarged inguinal gland. When examined by artificial light the tumor was translucent, thus differing from hæmatocele, which is opaque under artificial light, as is also an enlarged inguinal gland, therefore the diagnosis of hydrocele was clear. The question then naturally arose as to whether I had mistaken a hydrocele for a hernia in the first instance, but a comparison between the former tumor and the one now present dispelled any such idea.

The first tumor gave a marked impulse on coughing, did not fluctuate on palpation, was reducible and easily retained when reduced, but returning on the removal of the obstruction, and on reduction gave forth the "gurgling" sound which characterizes a hernia; while the second tumor was irreducible, fluctuated when palpated, gave no impulse on coughing, and was translucent under the "light test."

Dr. Geo. B. Harrison kindly saw the case with me on the following day, and together we diagnosed it "hydrocele of the hernial sac." It differed from hydrocele of the tunica vaginalis or ordinary hydrocele in that this commences, as a rule, at the bottom of the scrotum and progresses upward, gradually filling the entire scrotal cavity, while the hydrocele under observation extended from the external abdominal ring to only about the middle of the scrotum, having a separate and distinct sac around which the scrotum could be freely moved.

Diffuse hydrocele of the cord extending into the scrotal cavity resembles this, but the history of the case contraindicated that affection. Moreover, in hydrocele of the cord, when examined by artificial light, the cord is seen in the tumor, and the contents of the tumor can be pressed back into the inguinal canal, returning again on the removal of the pressure; while in the case of the hydrocele under consideration the cord could be felt behind its sac external to and distinct from it, and could be traced from the testicle up to the external ring, thence into the inguinal canal beneath the neck of the sac, and no force could squeeze the contents of the tumor into the inguinal canal.

In encysted hydrocele of the cord, which is sometimes found in this location, any movement of the testicle or cord is reflected upon the hydrocele itself, and the absence of this peculiarity excluded that affection.

Advised by Dr. Harrison, I evacuated its contents with an aspirating needle, and with strips of adhesive plaster and a thin sheet of rubber placed a light compress over the sac. This was repeated several times, the sac refilling after the

operations. About twelve weeks ago, after drawing off its contents, I washed out the sac with a 2 per cent. solution of carbolic acid, since which time the hydrocele has shown no tendency to return.

The literature on this subject, so far as I have been able to ascertain, is rather brief and unsatisfactory. Drs. McArdle and Kolipinski, after carefully perusing the works of foreign as well as American authors, found recorded but twenty-nine authenticated cases of dropsy of the hernial sac. My own incomplete researches have been far less satisfactory. Wyeth, Ashurst and Erichsen mention the affection as occasionally occurring, and dismiss the subject in a very few words. Gross touches it lightly under the head of hernial hydrocele. Bryant speaks of it as a rare affection, having himself experienced but one case, which occurred in a man of 40, who for two years had been treated for hydrocele of the tunica vaginalis, and where the true diagnosis was only discovered upon post-mortem examination. Agnew, in dealing with the subject, makes the following assertion: "The neck of a hernial sac may become obliterated either from the long continued pressure of a truss, or by a portion of its contents becoming adherent to its mouth. The pouch below, being a serous structure, may become inflamed and dropsical." Accepting this statement as correct, I think the mechanism of the change from a hernia to a hydrocele in the case just reported admits of a plausible explanation.

From the anatomy of the inguinal hernia we would naturally expect to find the most constricted portion of its sac at the external abdominal ring, just as it passes between the tendinous columns which form the lateral boundaries of that opening. At the base of this opening is found the crest of the pubes, presenting a hard bony resistance against the pressure of the truss. Now the delicate tissues of the child, constricted on one side by this bony wall and on the other by the truss, became inflamed. The hypertrophied parts pressing together the sides of the corrugated neck, caused the folds to unite, thus obliterating the sac from the abdominal cavity; and the inflamed lining membrane of the sac becoming dropsical, furnished the contents of the hydrocele.

THE GEOGRAPHICAL DISTRIBUTION OF RICKETS AND CHOREA.—The report of the Collective Investigation Committee shows that rickets, though not unknown in rural regions, is mainly a disease of towns and industrial regions, and especially of large industrial towns. Chorea, like rickets, is mainly a disease of towns and industrial regions, though by no means unknown in rural districts. Its distribution is affected by that of acute and subacute rheumatism, its prevalence diminishing as the latter disease becomes rare.—*Lancet*, Jan. 19, 1889.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

October 20, 1888.

OPERATION ON A FROST-BITTEN FOOT.

We have here a patient who has had his foot frost-bitten, from which he has lost one toe by amputation, and another one has fallen off, leaving a large and very painful cicatrix. It is not many years since surgeons amputated the leg for injuries involving only the foot. It is not over fifty years since the distinguished French surgeon Velpeau advised amputation at the point of election, as it was called, for such injuries. The point of election was a point about a hand's breadth below the knee. This I suppose was owing to the fact that artificial limbs were not so well known or so much used as they are to-day, and because they only had such artificial limbs as they could use by resting the knee in a flexed position on a wooden one, allowing the stump to protrude behind. But since those days about twenty-seven different amputations have been done between the toes and the ankle-joint, chief among them being those of Hay, Chopart and Syme.

Mr. Hay's amputation is that done between the tarsal and metatarsal bones, while Mr. Chopart's amputation separates the tarsal bones, and hence is sometimes called the medio-tarsal operation. Mr. Symes' operation is done at the ankle-joint. Now all of these are good operations, but the proper operation must be adapted to the proper case; it would not be a right thing to do a Chopart's operation if a Hay's would answer as well, nor would it be proper to do a Symes' if a Chopart's operation would do as well, and if in a given case you can do a better operation than either of them there is no reason why you should follow any of them. They all have their disadvantages as well as advantages. In Chopart's amputation one disadvantage, in the eyes of many surgeons, is that all of the muscles of the anterior part of the leg are severed, thus leaving no antagonist to the action of the gastrocnemius muscle, which, by contracting, raises the heel from the floor, turning the top of the foot down, causing the patient to walk on the cicatrix. I only advise this operation where you can get a long plantar flap and need no dorsal flap. Another objection is that the arches of the foot are destroyed, and consequently the spring and elasticity is gone. Some one has said that if the tread of the foot is lost that the

amputation had better be made at the ankle-joint, because the patient must limp in any case, and that he will be able to do better work by losing the entire foot.

This is not my advice. My rule is always to save as much of the foot as I possibly can. You will find that the mortality will be less in so doing. In the case before you I will follow no particular rule, I will reflect a superior and an inferior flap, and saw the metatarsal bones off as near the metatarsophalangeal articulation as possible. In studying anatomy many students study arteries, muscles and nerves and throw away the remainder, but the man who does not understand the ligaments, nor appreciate the arches of the foot, will never make an orthopedic surgeon. True, he may be able to do some mechanical operations, but he will never understand the causes of malformations or deformities of the foot. As I remove the Esmarch's bandage I am sorry to say that I see little or no bleeding from the wound. It is a good sign to have more or less bleeding from a wound, it shows that there is vitality there, and it is evidence that there will be repair of the wound. In this, as in all other cases where practicable, I use torsion to control hæmorrhage, so that I am certain that I leave no foreign substance in the wound.

Where ligatures must be used catgut is better than silk, as it is an animal substance and is readily absorbed. It is nevertheless foreign matter, and a very prolific source of septicæmia, as it is very hard to render it aseptic and keep it so. In all cases where an Esmarch's bandage has been used there will be more or less oozing from the capillaries, and the limb should be kept elevated for from one to four hours. The oozing will cease much sooner than if it were left in a horizontal posture. A drainage-tube should also always be used, as a collection of blood and serum may create wound tension and interfere materially with repair. In about one week the drainage-tube will have served its purpose and should be removed, otherwise it becomes a foreign substance in the wound, with all that that implies.

November 3, 1888.

OPERATION ON THE ARM FOR A STAB-WOUND MADE THIRTY YEARS AGO.

We have here another case, that of a man 76 years old. He was injured in a fight thirty years ago, by the stab of a knife, the point entering the elbow-joint from behind. Since that time he has suffered almost continual pain, and it is partly to relieve this pain that we do an operation on his arm to-day. You see the joint is partially ankylosed, swollen, and deformed from chronic synovitis. I will use an Esmarch's bandage on this arm.

I do not know what may be required here until

I open the joint, but I will begin as though I were going to excise the joint. We make an incision 4 inches long on the posterior aspect of the arm and parallel with it. Two-thirds of the incision will be made over the olecranon process and one-third over the base of the humerus, clear down to the bones. The heads of the bones are then dissected out, care being taken not to injure the ulnar nerve, which lies between the olecranon process and the inner condyle of the humerus. We guard against injuring this nerve by keeping the edge of the knife close to the bone. I will remove the olecranon process with the saw and the diseased cartilage with a scraper. As I do this, however, I meet with a metallic substance, which by the aid of the forceps I withdraw with difficulty, and which, as you see, proves to be the rusty and corroded point of what was at one time an ugly, dangerous-looking bowie-knife. It is fully an inch and a half long and one inch wide at the base. It has lain imbedded in the joint of the old man's arm for thirty years, the source of all the pain he has suffered in that arm.

We cannot in a man at this age expect to secure a very useful arm. This wound will, however, I think, heal kindly, and he will have less pain, to say the least, than he has had in the past, which is a result not to be ignored.

As I explained to you last week the difference between a septic and an aseptic wound, you will at once recognize this as a septic wound, because septic materials are already present in it. As there are deep sinuses and pockets filled with this septic matter, you will appreciate the difficulty in getting rid of them. They are like yeast, if but a small number of these germs remain they will promptly multiply and infect all of the wound again. Notwithstanding this, however, we will use all the antiseptic precautions that we would if the wound were an aseptic one and will hope to get good union of the parts and a speedy closing of the wound by nature. I will also place a drainage-tube in the bottom of the wound and the ordinary antiseptic dressing will be applied, and the patient will be removed to his bed in the ward.

December 15, 1888.

REVIEW OF SOME CASES OPERATED ON.

I want to show you to-day some of the cases on whom we have done operations, in order that you may be able to follow them to their termination. The first is the old gentleman 76 years of age on whom we excised the elbow for a stab-wound received thirty years ago. You will also remember that I removed the point of a dirk-knife from the wound which had lain imbedded there for all these years. The arm, as you see, might not be considered a useful arm, but it is still much better than it was before the operation, and he has no pain, which is an item to be taken into consider-

ation. This is the oldest case of excision of the elbow of which I have any knowledge.

Another case I want to show you is that of the man for whom we excised a knee-joint in the early part of the course, this year. You see he is able to walk around and has a very useful limb. He will leave the hospital in a few days. You see, as I manipulate the limb, that there is perfect ankylosis at the knee, the tibia and femur are practically one bone. You have seen several operations of this kind this winter, and they are operations that I think we should feel proud of, because they are much better than amputation, leaving as they do limbs which are so much better than any artificial appliances.

March 2, 1889.

Before bringing a patient before you this morning, let me read to you a letter from our old friend Thomas Cavanagh, upon whom you saw me do excision of the knee-joint early in this session. I read this letter in order to make the history complete.

DU BOIS, PA., Feb. 26, 1889.

Dear Friend:—With the greatest of pleasure I must let you know that I am walking without crutches or cane. It was on the 5th of February that I walked. I was very much surprised at myself when I done it. From the day that you operated on my knee till the day I walked was 4 months and 8 days. How is that for an old man? Therefore I thank you most respectfully for your skillful operation on me. Doctor I must let you know that I have had no pain in it since I left the hospital, and if I live till the 4th day of July I will go and see you. You can use this letter any way you like.

Therefore I remain yours truly,

THOS. CAVANAGH.

Dr. J. B. Murdoch, Pittsburgh, Pa.

MEDICAL PROGRESS.

PHENACETINE.—Apparently one of the best of the modern antipyretics is a substance described by Hinsberg and Kast as para-acetphenetidin, a substance analogous as regards its chemical constitution to antifebrin. We have already a number of times alluded to the properties of this substance (*Therapeutic Gazette*, 1888, pages 43, 142, 699), and although the testimony as to the action of this preparation as an antipyretic and antineuralgic appears to be unanimous as to its value and freedom from danger, it has attracted no attention among English-speaking members of the profession. This preparation, phenacetine, as first prepared, was a reddish, odorless powder, insoluble in water and in glycerine, and thoroughly soluble in hot alcohol and alkaline liquids. It has been recently prepared in colorless, crystalline needles, which are claimed to be soluble in acetic and lactic acids, and in hot oils. Extended experiments on dogs and rabbits have

shown that it is almost inert in doses of from 15 to 30 grains given daily for days at a time. When the dose is increased up to 45 and 75 grains in large dogs it produces accelerated respiration, sleepiness, disturbed coördination, and vomiting, and, in still larger doses, methæmoglobin is produced, as in antifebrin-poisoning. Even after this symptom has appeared, however, recovery has almost invariably occurred. Dr. Hoppe (*Deutsche Medicinal Zeitung*, No. 92) has made a number of experiments on man, administering doses of from 15 to 40 grains, and has found that after a time the system becomes accustomed to the remedy. The only disagreeable effects produced by these amounts were sleepiness, dizziness, nausea, and slight chilliness, the temperature, as consequent on doses of 30 grains, being reduced only a few tenths of a degree Centigrade. It appears, therefore, to be almost free from toxic properties, while his experiments made in the Jewish Hospital in Berlin, have confirmed the result of the experiments as already published by other observers. It has proved absolutely harmless, the only disagreeable after-effect being profuse perspiration, ringing in the ears, followed by weakness, and only in individuals already depressed by disease. As an antipyretic in children, doses of about 2 grains reduce the temperature from 1° to 2° C., a single large dose producing more effect than repeated small doses.

Led by the analogy of phenacetine in composition to antipyrin and antifebrin, Dr. Hoppe has likewise tested the properties of this drug in twenty-five different forms of neuralgia, in the majority of which relief of pain followed its employment. Various cases of headache were also relieved by its use within half an hour to an hour; and he believes that in neuralgia, as in febrile disease, it is equally as efficacious as antipyrin, and is preferable to it on account of its freedom from danger.

Dr. Rumpf (*Berl. Klin. Wochenschr.*, No. 23, 1888) likewise experimented to a considerable extent with phenacetine as an antipyretic and in the treatment of neuralgia. Dr. Rumpf believes that as an antipyretic it is as active as any yet introduced, since he has found that a single dose of 15 grains given to adults may reduce the temperature in the febrile state from two to three degrees in two hours; even half the dose has produced the same effect with no disagreeable complications. In eight cases of hemicrania doses of 15 grains produced great relief, while in seven cases of neuralgia of different nerves it has likewise been very satisfactory. Dr. Rumpf describes phenacetine as a drug which, in doses of 15 grains to adults or 3 grains to children, is an absolutely safe, reliable, and satisfactory antipyretic; while in doses of 15 grains it is highly recommended as an antineuralgic remedy in all cases of vaso-

motor neuroses, in the lancinating pains of tabes and the neuralgias of chronic neuritis.

Drs. Misrachi and Rifat (*Bulletin Gén. de Thérapeutique* June 22, 1888) have confirmed in all respects the statements which we have already published as to the action of this remedy. It is these authors who have determined the solubility of phenacetine in lactic acid. They have found that this solution is not disturbed by the addition of water as long as the temperature does not fall below 33° C. It is evident that this discovery is a great addition to the practical value of this remedy, since its high insolubility has been the principal objection to its use in therapeutics. After the administration of the lactic acid solution it is rapidly absorbed, and has been capable of detection in the urine.—*Therapeutic Gazette*, March 15, 1889.

BAKTERIOSKOPY AS AN IMPORTANT CRITERIUM FOR THE DIAGNOSIS OF MENINGITIS CEREBRO-SPINALIS.—PROFESSOR BOZZOLO, in the Reale Accademia di Medicina in Turin, makes an interesting communication which shows how bacteriological investigation may become an important aid in clinical diagnosis. The case concerned a man 54 years of age, suffering from acute fever with chills, from icterus, pains in the back of the neck, delirium and vomiting; the patellar reflexes were missing, and the spleen and liver were enlarged. The existence of pneumonia was excluded by the lack of the necessary physical symptoms in the lungs. On the ninth day of the disease an explorative puncture of the liver was made; by the cultures made with the extracted blood and by vaccinating mice and rabbits the presence of the diplococcus pneumoniae was proven. Thereupon the diagnosis "meningitis cerebro-spinalis" was made. Patient died, and the post-mortem confirmed completely the diagnosis. Besides a diffuse meningitis there was endocarditis of the aortic-valves and abscesses of the liver in consequence of biliary calculi. Bozzolo emphasizes the importance of bacteriological investigation of the blood in doubtful diagnosis, and mentions a very simple method of investigation invented by his clinical assistant Dr. Belfanti, which makes it possible to recognize to a certainty, the presence of the diplococcus in the blood of patients. It consists in the following: By tapping a vein, a small quantity of blood is taken from the patient, transferred to a thermostat, heated to 37°, and left in it for ten or twelve hours. If the diplococcus existed in the blood, numerous colonies of this microorganism will be seen developing on the coagulum.—*Internationale Klinische Rundschau*, 1889, No. 13.

TWO CASES OF FRACTURE OF THE SPINE TREATED BY TREPHINING.—MR. HERBERT ALLINGHAM at a meeting of the Medical Society of

London, read notes of two cases treated at the Great Northern Hospital last year. J. A., æt. 31, was admitted in July, having fallen 40 feet, causing a fracture of the spine. He was paralyzed from below the level of the ensiform cartilage. As he did not improve, in fact, seemed to lose ground, Mr. Allingham trephined the spine through an incision ten inches long. It was seen that the lamina of the sixth vertebra was badly fractured and depressed. He therefore with the bone forceps snipped off the laminae and spinous processes of the fifth, sixth, and seventh vertebrae, exposing the cord for about four inches. The operation took an hour and a half, and the wound was dressed antiseptically. Healing had taken place in about ten days, and the symptoms of ascending changes checked. Some amount of improvement subsequently took place, the level of the paralysis being brought down to the umbilicus. Case 2 was brought to the hospital in August, on account of a fall. She was paralyzed from a level seven inches above the umbilicus. Six days later Mr. Allingham removed the spinous processes and laminae of the third, fourth, fifth and sixth vertebrae, and as the cord was found to be crushed the dura mater was opened. The wound healed up except in the track of the drainage-tube in about a fortnight. The patient, a woman, died seven months later from bedsores, cystitis, etc. The cord was found to be almost divided, both ends tapering down to a fine point. Mr. Allingham concluded (1) that by timely trephining inflammatory ascending changes were prevented; (2) that no bad symptoms followed the laying open of the spinal dura mater; (3) the operation, although tedious, was not difficult, and did not lessen the chance of recovery. DR. MACKENZIE said the fact had recently been established that the spinal column could be opened and examined without much danger, and, where nothing was discovered, the injury inflicted was capable of rectification and the patient was given the best chance of recovery. That was of far more importance than the success of the first two or three operations, since it established the principles upon which future progress could be accomplished. He suggested that Dr. Beevor might be able to elucidate the changes that had taken place in the cord, which were relieved by the operation. DR. ROUTH mentioned two cases in which effusion into the spinal canal had been diagnosed, and in which death had taken place because no one was prepared to undertake to tap the canal. DR. BEEVOR alluded to the difficulties that arose in consequence of the fact that the anesthesia began much lower down than the seat of injury would lead one to suppose. The same difficulties had been met with when Mr. Horsley operated for the removal of a supposed spinal tumor. He said that the question as to the points in the cord at which the sensory fibres

were given off required elucidation. He mentioned a case in which it was clearly shown that the nerves of tactile sensation were distinct from those which conveyed painful impressions. MR. BALLANCE said he was present at the operation performed by Mr. Horsley, and mentioned the difficulty which had arisen from their not knowing the precise spot at which the sensory nerves were given off from the cord. That point had since been worked out by Mr. Shattock and others, and they were fairly agreed at present as to their origin. In Mr. Horsley's case he removed the laminae of four vertebrae without finding anything, but on the removal of a fifth they fortunately came upon the tumor, and the operation had proved successful. He congratulated Mr. Allingham upon the results he had obtained. He himself had seen a good many cases of fracture of the spine, but he had not treated them in the way suggested by the author. He observed that the great difficulty was to know how far the cases would recover without any interference. He supposed that Mr. Allingham would not advocate the operation being performed at once and in every case. He thought the safest plan would be to immobilize the fracture by a plaster-of-Paris jacket for a few days, until they could see what improvement was likely to take place. MR. ALLINGHAM, in reply, said he would have liked to see the cases mentioned by Dr. Routh. He had been struck by the fact that the operation did not affect the patient injuriously in the slightest degree. With reference to the time of the operation, he said he thought it ought to be done early, and his plan was to wait—say a week—and, if no sign of improvement was manifested, to operate. Delay always led to changes being set up in the cord.—*British Medical Journal*, April 13, 1880.

CHANGES IN THE BONES IN OLD AGE.—In the *Illustrated Medical News*, March, 1889, page 193, Prof. HUMPHREY contributes an article on the changes in the bones in old age, and illustrates his remarks with some valuable illustrations. To the naked eye these changes consist in an absorption of the cancellous structure, commencing in the parts which are most cancellous, that is, where the bony plates are thinnest, where the marrow is most abundant and most vascular, where the leucocytic and other agents in absorption are most abundant, where, accordingly, we might expect the processes of absorption to be most ready to take advantage of any failure in the nutritive and resisting qualities of the bony tissue. In the early condition the several parts of the skeleton are solid; as they become hardened and added to at the exterior, they become hollowed out in the interior into cancellous spaces, medullary canals, and air-containing cavities; this change continues through life in gradually diminishing degree; and

as old age advances, the subtraction from the interior exceeds the addition to the exterior, and the bones gradually decrease in weight and strength. The muscles at the same time become weaker, so that it is almost as rare to have a spontaneous fracture of a bone from muscular action in old age, as it is in youth or middle age. The author shows by diagrams how in old people the head of the femur becomes thinned and liable to fracture. This predisposition to absorption in the cancellous parts is met with in the ends of the long bones in all aged people, which causes their liability to fracture. The tendency to absorption of the cancellous parts of the skeleton is also seen in the alveolar processes of the jaws, whereby the teeth are loosened and often drop out. In the body of the lower jaw these changes are very marked; the thin lower bar alone remains with the mental foramen upon or near the upper edge; in the upper jaw alveolar processes become, in course of time, completely cleared away; the level of the palate is continued to the margin of the bone, the whole maxilla (the walls of the antrum more especially) becomes very thin, and the nasal spine and the cheek-bones are left outstanding in relatively strong relief. An exception to the progressive cancellous absorption and diminution of weight in the bones of old people is not unfrequently to be found in the skull, more particularly in the calvarium. This part in some cases becomes very thin and light; in others it becomes thicker from deposit on the interior consequent probably on the lessening of pressure upon it associated with the brain-shrinkage of age; in some of these latter cases it is very porous, the dioplœ being increased; in others, however, it is dense and heavy, as well as thick, the dioplœ being encroached upon and perhaps obliterated. The contrast in some cases presented by the thick heavy calvarium, and the thin light facial bones, is very striking; the skull of many old people weighing many ounces over the average, and this is due to increased thickness and density of the bones enclosing the cranial cavity. This senile thickening and "senile sclerosis" differ from the changes in osteitis deformans, inasmuch as they affect the interior of the skull and the dioplœ rather than the exterior. So far as the author knows, the cranial wall is the only part of the skeleton in which this process occurs. The increased density and weight of the skull when the rest of the skeleton is becoming less fitted to bear weight is a strange and not easily intelligible anomaly.—*London Medical Recorder*, April 20, 1889.

THE DURATION OF LIFE IN CANCER OF THE BREAST.—The average duration of life in cases of mammary carcinoma is very variously estimated by different observers, ranging from 28 to 55 months in those not operated upon, and from 32 to 53 months in cases in which the new growth

has been removed by the knife. Thus Gross, whose statistics are among the least hopeful, gives as the average duration of life, of those in whom the disease had been permitted to run its course, 27.1 months, and of those operated upon about 39 months. Sibley's figures for the same classes of cases are 32.25 and 53.2 months. Baker makes the average, for cases uninterfered with by operation, 43 months, while Paget's estimate for the same class of cases is 55 months.

By far the most hopeful figures which we have seen are some given by Mr. W. R. Williams, in *The Lancet* of January 12, 1889. He has recorded and tabulated all the fatal cases of cancer under treatment at the Middlesex Hospital during the last six years, with the result that the average duration of life, dating from the time when the disease was first noticed, was 60.8 months for those who had undergone operation, and 44.8 months for those in whom the disease ran its natural course. The longest duration of life when the breast was amputated was 297 months, and when no operation was performed 194.7 months. The author thinks that his statistics justify surgeons in taking a less despondent view of mammary carcinoma than is ordinarily taken.—*The Medical Record*, March 30, 1889.

CHARCOT ON SUSPENSION IN THE TREATMENT OF PROGRESSIVE LOCOMOTOR ATAXY.—PROFESSOR CHARCOT recently gave a clinical lecture on vertical suspension of the body in the treatment of progressive locomotor ataxy and some other diseases of the nervous system. This novel method of treating tabes dorsalis was first initiated by Dr. Motchoukowsky, of Odessa, who published a *brochure* on the subject in 1883; but it received no attention in Western Europe till 1888, when Professor Raymond, of Paris, while on a scientific mission in Russia, was struck with the results presented to him. Dr. Ouanoff, his fellow-traveler (a pupil of the Salpêtrière clinic), showed his practical application there. In Motchoukowsky's pamphlet considerable improvement was ascribed to it in twelve tabetic persons; also in various neurasthenias, independent of tabes, in which the sexual functions were reëstablished by this treatment. The patient is suspended for about three minutes by a Sayre's apparatus, and the arms of the patient while suspended are raised every fifteen or twenty seconds to increase the traction on the spinal column.

Charcot's tabetic patients numbered eighteen, with 400 *séances*. Of these, four were only suspended each three times; the rest went on regularly. Of these Professor Charcot says: "The remaining fourteen have experienced in varying degrees an improvement, which in eight has been quite remarkable." All were pronounced tabetics.

Walking is improved to begin with; the patients say they can walk better after the first suspension. This improvement at first lasts only a few hours, but after eight or ten sittings persists. After twenty or thirty sittings Romberg's sign disappears. Then vesical troubles are lessened or removed; also the lightning pains. Sexual impotence gives place to sexual desires and erections. (Experiments by Dr. Ouanoff on healthy persons have shown that this method has an exaggerating effect on virility.) The cotton-wool feeling in the feet gives away more or less to healthy sensations, and in general the whole health improves. Every patient steadily improved, with one exception, a young tabetic, aged 32, who at first improved, then fell off, then again improved somewhat. But the knee-jerks have not reappeared in any of the patients after three months' treatment, nor are the pupillary symptoms altered. As to other diseases, a young female with Friedreich's disease was greatly improved by the treatment. In two neurasthenic and impotent patients the sexual functions were reëstablished. But a patient with disseminated sclerosis was made worse, for after two sittings a spasmodic paraplegia appeared, which, however, gave way in three days. Further trial of this method is required before an opinion of its value can be given. The results are most encouraging so far, and at any rate perfectly harmless.—*London Medical Recorder*, March 20, 1889.

ON THE TREATMENT OF RENAL COLIC.—DR. CHRISTOPH, of Constantinople, was called, some time ago, to the wife of a Jewish banker, who suffered from renal colic and had been treated for three months by the best physicians with chloral hydrat, antipyrin, morphia and lythium benzoate. The woman is 23 years of age, weak, without children although married three years, extremely nervous, which is inherited from her father, who is afflicted with cramps and nervous diseases. In the urine gravel and calculi were found, which chemical analysis proved to consist of urates. Despite daily doses of 5 centigrams of morphia she had constant pains, which deprived her of sleep during the night, impaired digestion, and still more shattered her nervous system. In view of the unsuccessful analytic therapy he remembered having read in Frerich's well-known work on liver diseases Troussseau's prescription for renal colic, consisting of inhalations of chloroform at every attack of pain. To his agreeable surprise the patient informed him, on a subsequent visit, that she was entirely free from pain after inhaling for twenty seconds, and that she had been obliged to repeat the inhalation only three times during the day. Later on he alternated between this remedy and butylchloral, 5 grams in 120 grams of water, with 10 grams of spir. vini rectif. and 20. gr. glycerine, of which 2 or 3 tablespoonsful

daily, taken quickly one after another, relieved her immediately, or between chloroform and urethan, 3 or 4 gr. daily. To dissolve the stones he added daily 3 teaspoonfuls of magnesia bor. nitr. with sugar dissolved in water.—*Internationale Klinische Rundschau*, 1889, No. 13.

ON SECONDARY INFECTION IN SCARLET FEVER.—DR. MARIE RASKIN, of St. Petersburg, from a series of clinical and experimental investigations, draws the following conclusions: 1. The malignant complications occurring in scarlet fever: lymphadenitis purulenta, phlegmone, otitis purulenta, synovitis purulenta, broncho-pneumonia, pleuritis, pyæmia and septicæmia, perhaps also diphtheria and serous synovitis, are caused by a secondary streptococci infection, other microorganisms possibly having a share in the origin of some of the above processes, as pyogenous staphylococci in otitis and micrococcus pyogenes tenuis in pyæmia. 2. The introduction of the streptococci occurs through the primarily inflamed throat, whence they extend through the lymph channels and thus get into the blood. 3. The streptococci having invaded the blood there are three possibilities: *a*, the cocci may disappear from the blood without any consequences except more or less fever; *b*, they may increase rapidly in the organs and cause death by general septic infection; *c*, often they may cause death by pyæmia. 4. The chain coccus occurring in scarlet fever may be regarded as a variety of the well-known streptococcus pyogenes. 5. It is not the cause of scarlet fever.—*Centralblatt für Bakteriologie und Parasitenkunde*, 1889, No. 14.

ON THE VALUE OF INHALATIONS OF HYDROFLUORIC ACID IN TUBERCULOSIS OF THE LUNGS.—DR. L. POLYAK, in the Society of Physicians in Budapest, declares that by abundant experience with this new mode of treatment, he has arrived at the following conclusions: 1. The bacilli in the sputa increased in every case. 2. The lung-affection grew worse in every case; in three cases the infiltration increased, in two cases considerable disintegration took place. 3. The body-weight decreased in four cases by 0.5–3 kilogr.; in one case it increased by 0.5 kilos., but the other symptoms became worse. 4. In two patients before the inhalations only moderate increase of temperature occurred; during the cure considerable increases in temperature were observed; in a third case the fever increased. 5. In four cases the vital capacity decreased by 100–600 cm.; in one case it increased by 100 cm., although in this case infiltration made progress. 6. The mode of cure is certainly harmful, inasmuch as patients have to stay in a small enclosed room for a long while whose air is not in keeping with the demands of hygiene. From all of which it is seen that these inhalations are not only, not

beneficent, but absolutely harmful.—*Wiener Med. Wochenschrift*, 1889, No. 13.

INCREASE OF BODY-TEMPERATURE AS A PARTIAL SYMPTOM OF VIS MEDICATRIX NATURAL.—DR. DOCHMANN (Kersau) declares that in infectious fevers the increase in body-temperature should not be considered *a priori* as harmful, but that it probably rather contributes to render the infectious virus harmless. He reports independent experiments of his own which seem to support this, so far, but hypothetical view. When cats that had been poisoned with curare, were put into the thermostat and subjected to an artificial increase of warmth, they recovered rapidly from the intoxication, which was not the case in animals kept in a normal temperature. In view of the close toxocological relationship between curare and various ptomaines, the significance of these experiments for the question under discussion cannot be overlooked. Similar results were obtained by Dochmann with animals into whom decomposing substances had been injected.—*Wiener Medicinische Wochenschrift*, 1889, No. 13.

ETIOLOGY OF TETANUS.—M. VERNEUIL, in a paper read before the French Academy of Medicine, dwelt upon the virulence of soil contaminated by the dejections of tetanic horses. He insisted on the frequency of tetanus in wounds of the lower extremities; thus, in Havana, out of 162 patients suffering from tetanus, 132 contracted it from wounds on the legs and feet. The disease is frequent in persons who, after being wounded, get in contact with the soil, as in cases of comminuted fracture, in which the bones are forced into the ground, and crushing of the bare feet; also when earth is used as a dressing, and when the wound is inflicted by an agricultural implement. Experiments made with ordinary soil and soil known to be contaminated strongly support this view. Certain soils seem to preserve their virulence much longer than others, and stagnant water seems to favor the proliferation of the microbe.—*London Medical Recorder*, April 20, 1889.

CANABIN IN GRAVES' DISEASE.—VALIERI, after using cannabin in three cases of exophthalmic goitre, recommends the following formula:—

Cannabin	gr. iv ss
Sugar of milk, q. s.	Mix.
Make 5 pills.	
S. To be taken in 24 hours.	
Cannabin	gr. iv ss
Distilled water	℥ ij
Syrup of orange flowers	℥ j
S. Take in teaspoonful doses in 24 hours	Mix.

Or we may prescribe a decoction of 2 or 4 tooth parts, or doses of ℥ 15 or 30 of the tincture.—*Wiener Medical Presse*, No. 41, 1888.

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ETIOLOGY OF INSANITY.

We are indebted to the *Occidental Medical Times* for advance sheets containing a good abstract of the proceedings of the California State Medical Society, in San Francisco, April 17, 18, and 19, 1889. The report of a Committee on Mental Diseases and Medical Jurisprudence, was read by DR. J. W. ROBERTSON of San Francisco, in which he discussed at some length the causes of insanity, and especially the influence of civilization and mental culture. The assertion has been often made that insanity in its various forms, is decidedly increasing beyond the ratio of increase of the population, in all the more civilized countries. But the report says, "if there was any actual increase in the numbers of the insane, relatively, throughout the whole civilized world, statistics have failed to show it." It is suggested that the apparent increase is owing largely to the greater attention given to the insane during the present century. The building of asylums and homes for their humane treatment, and their more careful enumeration in each succeeding census, with less motives for their concealment by friends, have caused the true number relative to the whole population, to be ascertained more accurately. The more detailed and complete census enumerations have also offered better facilities for ascertaining the relations of the various occupations and classes of people. Whether civilization actually exerted any intrinsic influence in the production of insanity, Dr. Robertson expresses serious doubt. The two most prominent factors belong-

ing to higher civilization, are heredity and education with its more intense activities. Regarding the first, it was stated that the records of the Napa Asylum embraced 4,280 cases of insanity, of which 213, or only 5 per cent. were attributed to hereditary influence. Of the whole number recorded at Napa, 2,700 were males, only 33 of whom were professional men, and only 230 who could be regarded as belonging to the educated classes; 450 were classed as artisans, and the remaining 2,000 were laborers or without active occupation, and very largely of foreign birth. It was stated in the report that, "a large foreign population and a large insane population go hand in hand; and the foreigners in this State, (California) who constitute one-third of the population, furnish two-thirds of the insane." Dr. J. H. Brainard, of Los Angeles, stated that he had examined the record of some 8,000 cases of insanity with reference to the influence of education or brain work, and he found that the professions had but a very small representation, the laboring classes being in the proportion of 90 per cent.

DR. G. W. GRAVES, of Petaluma, had been engaged in the examination of persons charged with being insane, for near twenty years, during which time he remembered of but one subject who was a professional man. While the facts given in the report of Dr. Robertson and those elicited in the discussion following the reading of the same, show that in California the ratio of the insane to the whole population is one to three hundred, and that three-fourths of the insane belong to the class of least education and mental activity; the same relative ratios do not prevail in all the States. Yet, it is true in all the States, that much the highest ratio of insanity is found in the laboring classes of limited education, both native and foreign; while the lowest ratio is found in those of the most extended education and most active intellectual work. Consequently it is fair to infer that the progress of civilization, so far as it relates to the development of the moral and intellectual faculties, and the advancement of all the sciences and their application to the arts and the various departments of human industry, has no tendency to derange the mental faculties or to increase any of the forms of insanity. And it is probable that so far as the number of insane has increased faster in population than the increase of population, in this

country, such increase is owing entirely to the large annual immigration from the poorer and least enlightened classes of Europe.

But while the advancement of true civilization with its ever increasing and varied mental activities, affords no proof of being a direct cause of insanity, its influence in strengthening the ambition of even the least enlightened classes for more wealth and better social position without removing from them certain habits and vices that are ever mocking their ambition and defeating their efforts, while stealthily undermining their physical health, may be justly regarded as an efficient though indirect cause of insanity.

There is no condition of the human mind that more strongly predisposes to insanity than protracted *anxiety*, which consists in a more or less intense desire for the accomplishment of a certain object coupled with a constant fear of failure. The ranks of the great laboring classes, especially in this country, are full of individuals and families inspired with the anxious desire to improve their pecuniary, social and educational condition, but whose baser passions and vicious indulgencies either absorb so much of their earnings or tempt them into such unlawful acts, as not only disappoint and disgrace the man, but send the arrows of long dreaded disappointment and despair deep into the minds of the wife and children. One of the most prolific causes of intense and continued anxiety, ending often in both physical and mental ruin, is the use of alcoholic or fermented and distilled drinks that takes directly from the earnings of labor in this country more than \$500,000,000 annually, and brings the most intense and protracted anguish to the minds of many thousands of innocent parties. In regard to this one influence, Dr. Brainerd, in discussing the report of Dr. Robertson, made the following statements: "Regarding alcohol it is difficult to obtain the figures. The statistics ordinarily obtainable were those from patients sent to the insane asylums. From these you could not find more than *one* case in *ten*. On getting the histories of the cases we find that alcohol as a direct cause does not play so important a factor as it does as an *indirect* cause. He had investigated some 90,000 cases, and found that the percentage attributable to alcohol was less than 8 per cent. His own experience in some four or five thousand cases satisfied him that the indirect

proportion with which alcohol should be credited was nearly 16 per cent.; and some even placed it as high as 25 per cent." It is thus seen that these very cautious inferences make the direct and indirect influence of alcoholic drinks the cause of 25 per cent. of all the cases of insanity in this country.

TYPICAL FORMS OF DISEASE MODIFIED BY CLIMATIC AND LOCAL CONDITIONS.

Apropos to the remarks of THE JOURNAL in its issues of April 13th and 20th, on the "Preferable Climate for Phthisis," brought out by the paper of DR. DENISON, it now extends its consideration of climate so as to include its modifying and typifying influences on diseases generally, and on some of the more prevalent diseases of given localities particularly. Much may be gained by a careful survey of the changing and varying types of diseases prevalent in our respective fields. A careful retrospective study of the various potencies which may have played a more or less important part in stamping prevailing diseases generally with their peculiar types, is productive of great good. We may look over the field of battle after the smoke and din have gone, and note with much clearer sight the relative position of the forces employed, than could have been done during the strife; and so it is with our struggles with disease. We may profit much by the study of past experiences.

Take, for illustration, typhoid fever as the disease, and take New England, Pennsylvania and Ohio for one part of the field, and Illinois, Iowa and Nebraska for the other part, the same observer transplanted from the former part of the field to the latter will be strongly impressed with the marked differences of type of the disease in question, as observed in different parts of the field. He sees it in one locality a *typical* disease; he sees it in another locality an *atypical* disease. Why the difference? There can be no doubt as to the identity of the disease in the two parts of the field; but the difference in type is striking and perplexing. We turn at once to climatic influences for a solution of the problem. In this there are many factors. Each plays its peculiar rôle in the typification of diseases. There can be no doubt about that. Impurities of atmosphere are many and dependent on a

multitude of circumstances. In this the nature and composition of the soil, its state, as to rest or disturbance, has much to do with the purity of the atmosphere in any given locality. In the eastern end of our field the soil abounds in good clay, sand and rock, and in the western end a deep, black vegetable loam prevails. This loamy soil is abundantly productive, and the great ease with which it can be brought under cultivation, makes agriculture on an extensive scale possible. Hence the area of soil undergoing the agitation incident to grain culture is comparatively very great. Our knowledge of the nature and character of malaria is as yet limited, but whatever it may be, we know that it thrives best on decomposing animal and vegetable matter; that it requires certain degrees of heat and moisture for its greatest activity. Hence we have in the western end of our field the conditions prevailing which most strongly conspire to impregnate the atmosphere with malaria.

In this, facts comport with theory. We have in this part of our field a *malarial climate*. This makes itself manifest in a multitude of ways. At times, and in certain localities, malarial diseases prevail to a large extent, at other times and in other localities it requires other disturbing influences to bring to the surface evidences of its activity.

Perhaps it may be a wound of inconsiderable gravity, but sufficient to make its shock felt throughout the fabric; perhaps it may be the disturbance incident to child-birth; or the commotion which obtains in acute rheumatism; or the much greater molecular disturbance which obtains in typhoid fever, the effect is largely the same. Sometimes a comparatively slight injury to an important joint, such as the hip, knee or ankle, the shoulder, elbow or wrist, the shock, though slight it may be, resulting from such violence may develop into symptoms of an alarming nature and embarrass the surgeon greatly. But when the malarial factor is once recognized and taken fairly in hand, the progress and history of the case to a successful issue is simple enough.

The puerperal woman may at any period of the lying-in state manifest symptoms of an alarming character; she may have had a severe chill, followed by high temperature, copious perspiration, great exhaustion, and all the symptoms usually attendant on puerperal fever. A prompt recogni-

tion of the malarial character of the complication, and the employment of appropriate therapy will dispel consternation and guide the patient to an early and safe recovery. On the other hand, a mistaken diagnosis will increase and intensify the complication.

A case of acute articular rheumatism may present a marked set of symptoms, but if carefully analyzed and interpreted, and the appropriate anti-malarial remedies employed, the complications disappear and the case proceeds to an easy and successful termination.

Typhoid fever occurs in a community, the symptoms are not regular, there are no typical cases, all of a mixed or masked character, all run an irregular course, yet all are of unmistakable typhoid origin, all manifest some of the regular symptoms of typhoid fever, none however have the full measure of typhoid characteristics, and none present more than one, or at most two, unmodified typhoid features.

Complications of rare and unusual character occur; one line of complications prevailing in one locality, and another set entirely different obtaining in another.

In a circumscribed district hæmorrhage from the intestinal tract may prevail to an alarming extent. Perhaps two out of five cases may present this fearful and largely fatal symptom. In another district, it may be at no very great distance from the former, inflammation and suppuration of the parotid gland may be the predominating complication, this untoward feature of the malady occurring in a large percentage of the cases, with the odds largely against the recovery of any case in which it occurs.

In still another district, perhaps not a score of miles distant from either of the former, still another complication of special significance occurs, with equal constancy, but with perhaps less prognostic fatality, in which the nerve centers are so impressed that aphasia and other manifestations of a similar character occur with marked regularity. These modifications, these differences, these varied complications, are undoubtedly the offspring of climatic influences, but just how much of a figure the malarial factor may play in the production of these phenomena, and to what extent their occurrence may be due to other and less demonstrable climatic conditions, is difficult of definite determination. The fact is

readily established, however, that malaria is the prevalent modifying influence in the class of cases cited. This can be done by the timely and judicious employment of our most reliable anti-malarial agent, quinine.

These facts are worthy of careful study and investigation. The study of climatology should engage the most earnest efforts of our schools and colleges throughout the country. A clearer understanding of the influences of climate in the production and modification of diseases would go far toward solving problems hitherto unexplained.

ALLEGATIONS OF HARSH TREATMENT OF THE INSANE.

During the last few years the reading public has been often shocked by reports of great cruelty and sometimes deaths from harsh treatment of the insane in public asylums for the care of that unfortunate class. One of the most recent of such reports has come from the Cook County Asylum for the pauper insane, in which an inmate named Burns is alleged to have died in consequence of the kicks and blows inflicted by two or three of the men employed as attendants. The post-mortem showed evidences of most extensive bruises, with fracture of one rib and the sternum. The primary judicial proceedings developed evidence that the Asylum is greatly overcrowded with patients and managed with a very inadequate number of attendants, many of whom, owing to the small wages paid and the repulsive nature of the work, are taken from the more rough and ignorant classes of society. While such conditions exist, it is unreasonable to expect that exhibitions of ill temper and inhuman violence will not often occur. No time should be lost in making such additional accommodations as will suitably provide for all the inmates; and no medical man should consent to take the superintendency of such an institution unless he is permitted to select and employ a sufficient number of intelligent and humane nurses or ward attendants to maintain order and reasonable discipline without exhibitions of ill-temper or the infliction of personal violence on the poor inmates.

EDITORIAL NOTES.

TIMES AND REGISTER.—We learn from *The Medical Register*, April 27, 1889, that a union has

been effected between *The Register*, *The Philadelphia Medical Times* and *The New York Dietetic Gazette*; and that on May 4th the united journals will appear under the title of *The Medical Times and Register*, with Dr. William F. Waugh, of *The Times*, as chief editor. Dr. John V. Shoemaker retires, on account of the pressure of other literary engagements, but the remaining writers hitherto engaged on the three, will continue their work for the combined journal.

OHIO STATE MEDICAL SOCIETY.—The forty-fourth annual meeting of this Society is to be held in Youngstown, Ohio, May 22d, 23d, and 24th, 1889. A full programme of work has been arranged, and railroads promised the usual reduction in fares, on the certificate plan. P. S. Connor, M.D., President, Geo. A. Collamore, M.D., Secretary, Toledo, Ohio.

THE STATE MEDICAL SOCIETY of Wisconsin will hold its next annual meeting in Milwaukee, commencing on the *first* Tuesday in June, 1889. For further information apply to J. T. Reeve, M.D., Appleton, Wis.

THE INDIANA STATE MEDICAL SOCIETY held its annual meeting in Indianapolis, May 1st and 2d, 1889. A good number of members were present. Dr. J. F. Hibberd, of Richmond, Indiana, as Chairman of a Committee, stated that there are 4,163 registered physicians in that State. Of this number 3,243 are regular physicians, of whom about 1,300 are members of the State Medical Society; 287 are classed as eclectic; 199 as homeopaths; 142 as physiomedical, and 192 unclassified. On the second day of the meeting the following were chosen as officers of the Society for the ensuing year: President, Dr. J. D. Hatch, of Lawrenceburg; Vice-President, Dr. S. T. Yount, of Lafayette; Secretary, Dr. E. S. Elder, of Indianapolis; Assistant Secretary, Dr. T. C. Kennedy, of Shelbyville; Treasurer, Dr. F. C. Ferguson, of Indianapolis; and Committee on Necrology, Dr. J. F. Hibberd, of Richmond.

THE NORTHAMPTON COUNTY (PA.) MEDICAL SOCIETY will hold its fortieth annual meeting in Easton, June 20, 1889, at which time a complimentary dinner is to be tendered to Dr. Traill Green, the founder of the Society, and one of the most meritorious members of the profession in the State.

SOCIETY PROCEEDINGS.

Medical and Chirurgical Faculty of
Maryland.

*Ninety-first Annual Session, held at the Hall of the
Faculty, Baltimore, Md., April 23, 24 and
25, 1889.*

DR. JOHN MORRIS, PRESIDENT, IN THE CHAIR.

DRS. G. L. TANEYHILL, ROBERT T. WILSON AND
WILLIAM B. CANFIELD, SECRETARIES.

TUESDAY, APRIL 23—FIRST DAY.

THE PRESIDENT'S ADDRESS.

After greeting the members, he said that the Faculty was now celebrating its ninety-first birthday, and that he had watched its career for nearly a half century, and was the only surviving member who had entered its gates by examination. He then addressed the members on the following subject:

THE PHYSIOLOGY AND PATHOGENESIS OF CRIME.
HOW FAR CAN MEDICAL MEN AID IN ITS
PREVENTION?

The teaching of the day appeared to be to make the physician a naturalist and a physicist. In studying these sciences the higher study should not be neglected—the study of society; the study of man, and his relations to his fellow-men, the advancement of the race through its physical cultivation. Millions of diseased men remain uncared for and the causes that have led to their degeneration are overlooked and unstudied. Physical culture is studied in the schools, but the character is not built up. We attempt to reform criminals, to rehabilitate them and ameliorate their condition. We should use prophylaxis. To prevent a man from becoming a criminal we must begin with him as a child. There is nothing practical in our moral and religious education. Even the sense of right and wrong is not clearly, effectively and practically taught. It is only the education that seeks to stimulate every noble purpose and capacity that can avail to form or change character, and this kind of education is not obtained in the school and the church. Every one cries out against immorality, but no steps are taken to create morality—to make morality a public sentiment; to make it a subject of national pride. Yet these are the prominent, the prevailing influences in Japan. There crimes of violence and outrage are scarcely known.

Where the law of heredity is recognized it is the duty of the medical man to forewarn parents, and to suggest the proper education and surroundings to render innocuous the taint of blood. This law of heredity obtains even more in moral than in physical traits, although the latter also, as we

know, can be transmitted. "Breeding back" would often render a happy change in our economy. "Begin with the man's grandfather if you wish to reform him." The family doctor has disappeared, but he must be brought back, to occupy a higher and a wider field. We are born with unalterable tendencies which are not always evil. The Jew and the Gypsy are examples of unalterable types. Psychology rarely enters into the education of a physician, and yet the questions of moral responsibility are associated with it. Ordinarily the physician treats the body alone, irrespective of the mental organization. He is but half a physician. The body yields to the mind, the mind to the body rarely. The weakness or total absence of certain powers of mind is rarely noted in children, and yet this observation is of the highest importance in shaping their future lives. The physician should be consulted in regard to the education of a family of children, and to do this he must have been trained by a long course of mental observation.

No man is born a criminal. We are not taught to value the truth. Perjury is the most common crime in our country, and yet it is rarely punished. The church and State have done little to regulate marriage, except the Roman Catholic church and the Church of England. Marriage should be regulated by law. Paupers and criminals should be prevented from marrying. The Legislature of Kentucky has a bill before it to regulate marriage. The tramp and malingerer should be stamped out; they need not exist. It is as harmful to bring insane children into the world as it is to drive them insane by bad usage. The habitual criminal, man or woman, should be deprived of the power to procreate.

In all our original research, let us not forget these questions. Let it be directed to the foundations of life; to the evolution and structure of character; to the evolution and building up a higher intellectual and moral constitution of the race; not to a childish search after pebbles and toys, of jackstraws in place of the true gold. In any and every event our work will go on—our profession will live as long as the ages endure. The more we advance in knowledge, the more the world will need us. As the astrologist, the alchemist, the barber of the Middle Ages, gave place to the pompous and pedantic oracle of the seventeenth and eighteenth centuries, with his latinity, his lancet and his squirt—the last like the spear of Telamon, which healed at one end the wound inflicted by the other; and as the oracle was followed by the man of the present time, with his ologies and marvelous nomenclature, his thousands of drugs, his hypodermic syringe and his microscope, seeking after the unseekable; so, in the future, this present man will be succeeded by a race of men of advanced thought, of truer convictions, of stronger culture, of higher and

broadier views; to the end that the State may be enlightened and improved, humanity benefited, and religion exalted.

WEDNESDAY, APRIL 24—SECOND DAY.

DR. WM. OSLER, of Philadelphia, delivered the *Annual Oration*. (See page 649.)

Section on Surgery.

DR. RANDOLPH WINSLOW, CHAIRMAN.

The chairman called attention to the subject of

SURGERY OF THE CENTRAL NERVOUS SYSTEM,

and dwelt especially on the importance of understanding thoroughly the general and topical anatomy of the brain, and then referred to the important results obtained by experiments on animals, by clinical observations, post-mortem examinations, and by electrical stimulation of the exposed human brain during the performance of surgical operations. The cortex and base are most accessible and amenable to surgical procedures. Tumors of the brain are of more frequent occurrence than general practitioners think. W. Hale White and Victor Horsley have done the best work here. Cranio-cerebral topography is a new and very important study and has been mainly used in the surgical treatment of epilepsy, brain abscesses. The study of

SURGERY OF THE SPINAL CORD

is of more recent date. Few cases have been reported.

In the same Section DR. OSCAR J. COSKERY reported a case of

TREPHINING FOR CEREBRAL ABSCESS,

with the result of removing the pus and giving motion to a paralyzed arm and leg, but the patient subsequently died.

DR. JOHN C. JAY then reported

A CASE OF ENTIRE EXSECTION OF THE ULNA WITH RESECTION OF THE HUMERUS AND RADIUS,

in a woman 49 years old. Complete ankylosis did not occur and the elbow remains movable to the extent of several inches, and thumb and two fingers can be used. The operation was fully justified by the excellent results.

Section on Practice of Medicine.

DR. WILLIAM B. CANFIELD, CHAIRMAN.

DR. CANFIELD took up the following subjects:

I. THE RELATION OF DUSTY OCCUPATIONS TO PULMONARY PHTHISIS.

He began by saying that the pulmonary diseases caused by the different kinds of dust had received a variety of names according to the character of dust inhaled, but collectively they were all covered by the name "pneumonocomiasis."

Ever since Koch's discovery of the tubercle bacillus, and the gradually improved classification of lung diseases, there seemed to be doubt whether these dust diseases were tuberculous or not. The dust inhaled by miners in badly ventilated mines gradually overcame the action of the ciliated epithelium and penetrated to the alveoli of the lung, whence they found their way into the subepithelial layer, where, unless rendered harmless or devoured by the greedy phagocytes, they set up a fibroid condition of the lung. Most writers agree that the fibroid condition is a barrier to the growth and multiplication of the bacillus.

He then related the case of a miner who had a fibrosis of the lungs, and in whose sputa bacilli were always found at every examination, and yet the man improved and is now well. His conclusions were:

1. Patient had no previous history of, or predisposition to, tuberculosis.
2. He contracted a disease with which tuberculosis is supposed to be very rarely found.
3. He had tubercle bacilli in abundance in his sputa.
4. He is now entirely well.

II. THE PRESENT ASPECT OF THE QUESTION AS TO THE ETIOLOGY OF PNEUMONIA.

Pneumonia results from something more than "catching cold." Sailors lead an exposed life and rarely have it. A large number of investigators have been looking for the specific organism. Talamon did some excellent work. Friedländer's pneumococcus was accepted for a time, but the investigations of Fränkel and Weichselbaum have shown Friedländer's organism to be only an accidental accompaniment of pneumonia. Good work has been done by Gamaléia, Sternberg, Lipari and others. He referred to the theory of phagocytosis in connection with this subject, and related his own experience in the bacteriological study of the organism. He then took up

III. THE MORE RECENT TREATMENT OF PULMONARY PHTHISIS,

and spoke of the failure of Bergeon's method. Treatment has been carried out by:

1. Internal administration of drugs or medicines.
2. Intrapulmonary injections.
3. Inhalations.
4. Climate. And cures occasionally occurred.
5. Spontaneously.
 1. The principal remedies recommended of late were creasote, tannin, calomel and morrhual. He had used creasote with some success.
 2. Intrapulmonary injections had been discarded.
 3. Inhalations had no lasting influence on the lung tissue. Creasote, hydrofluoric acid and hot air had all been used. Weigert claims to get some good effects from the latter.
 4. Climate, in early cases well selected, is the

best treatment. Many observers, particularly foreigners, gauge the improvement or the reverse by the diminution or increase of bacilli found. This hardly seemed to be the proper test. Patients often do well when their sputum is laden with bacilli. Cures may result spontaneously, as Vibert has shown in his statistics gathered from the Paris morgue. In 131 persons between 20 and 55, all of whom died violent or sudden deaths, in 17, or 68 per cent., evidences of cured consumption were even found in the lungs. These facts should be borne in mind by those reporting cures from the use of new remedies.

DR. W. S. FORWOOD, Darlington, Md., said that the "flint disease," as it was called in Hartford County, was very common and very fatal with the workmen in the quarries. The men all have this disease, which begins very insidiously and grows worse. It ends like consumption, but the beginning is very different. In reply to Drs. Randolph Winslow and A. K. Bond he said that no one escaped the disease after working in the quarries, and all were permanently injured, even if they gave up the occupation in a year.

DR. J. T. WRIGHTSON, of Newark, N. J., said that lung disease was very common among the hat-makers of his city, but he attributed it not so much to the dust as to drinking.

THURSDAY, APRIL 25—THIRD DAY.

Section on Obstetrics and Gynecology.

DR. T. A. ASHBY, CHAIRMAN.

The chairman remarked first on the growing tendency to abandon empirical methods and to employ more rational views of pathology and treatment. The study of abdominal surgery claims attention. Exploratory laparotomy is the only correct means to use in some cases. Laparotomy for pelvic abscess is a subject gradually gaining upon the professional mind. Primary laparotomy in tubal pregnancy has been brought into conspicuous prominence; but the greatest interest has been aroused in the use of

ELECTRICITY IN GYNECOLOGY.

He then discussed the various diseases for which electricity had been used, and then showed how much had been accomplished by it in a short time.

DR. L. E. NEALE then exhibited

A NEW OBSTETRICAL FORCEPS

which was a modification of Howard's modification of Tarnier's. He called it "Neale's Forceps." He claims superiority on the ground that it is all hard metal, and can be made thoroughly aseptic, has Simpson lock, blades are narrow, preventing rupture of perineum. It is made by Williams, of Baltimore.

DR. P. C. WILLIAMS praised it very highly.

He liked Tarnier's handles. In using it as ordinary forceps, he thought there was not force enough at the handle to manage it. It had many advantages which made it a superior instrument to the others.

Section on Materia Medica and Chemistry.

DR. T. BARTON BRUNE, CHAIRMAN, read a paper on

SUGAR TESTING, WITH SPECIAL REFERENCE TO "ALCAPTONURIA,"

in which he reviewed the various substances giving a sugar reaction, and the danger of trusting too much to one test alone.

DR. W. B. PLATT took up the subject of

SURGICAL THERAPEUTICS,

in which he considered all curative non-mechanical agencies employed in surgical cases, whether after accident, operation, or for surgical diseases. These he classified as anæsthetics, antisiphilitics and antiseptics. In the first class he discussed protoxide of nitrogen, chloride of methyl and cocaine. Under antisiphilitics were mentioned mercury inunction, hypodermic injections and gray oil. The antiseptics were carbolic acid, creolin and iodoform.

DR. WHITFIELD WINSEY then read a paper on

HYPNOTICS AND ANTIPYRETICS.

In the former class he reviewed what is now known of sulfonal, and drew the following conclusions:

1. It is a true hypnotic.
2. It is easy of administration, being without taste or odor.
3. It is safe, prompt and efficient, with objectionable after-effects.
4. No sulfonal habit contracted.

Under antipyretics he went over very thoroughly the literature of antipyrin, antifebrin and phenacetin.

DR. H. SALZER read a very exhaustive paper on

LAVAGE,

and gave the indications for its use in adults and children, and his experience with it.

In the discussion which followed, the remarks were confined to glycosuria and the sugar tests.

DR. A. K. BOND thought the testing for sugar was not so simple a method as it appeared. He thought the phenylhydrazin chloride test was the most satisfactory, but agreed with Dr. Brune that no one test should be used alone.

DR. GEORGE J. PRESTON thought it was important to know whether the amount of sugar increased or decreased.

DR. WILLIAM B. CANFIELD thought no test was reliable. He had succeeded with other tests where the phenylhydrazin chloride test had failed. He thought the use of the microscope was an ob-

jection to this test, as probably two-thirds of the medical graduates of the United States did not know how to use a microscope.

DR. J. C. HEMMETER was surprised that the saccharinmeter had not been mentioned. Salkowsky and Leube proved that it showed the presence of $\frac{1}{10}$ of 1 per cent.

DR. T. B. BRUNE, in closing, said he regretted to bring such a long discussion before the Society. The phenylhydrazin chloride test had not been long enough before the medical public to judge of it yet. Some other substance, as carbohydrater, may reduce these crystals.

Section on Sanitary Science.

DR. W. C. VAN BIBBER read a report on the subject of

QUARANTINE,

in which he discussed the Maryland Health and quarantine establishment, and referred particularly to yellow fever.

FRIDAY, APRIL 26—FOURTH DAY.

DR. F. T. MILES read a paper entitled: *A Case of Dilatation of the Stomach Dependent upon Contraction of the Pylorus* in which tetany of a typical character occurred, speedily ending in death. He could find nothing in the vomited matter to account for it.

DR. J. W. CHAMBERS submitted a paper on *Cystic Tumor of the Lower Jaw*.

DR. GEO. J. PRESTON reported a case of *Tumor of the Cerebellum* pressing on the middle lobe.

DR. J. D. BLAKE, in referring to Dr. Welch's paper, asked how the poison could be transmitted by the nerves alone? If injection into the blood does not kill, but makes the animal proof against future attacks, why not inject the substance directly into the blood of man to prevent hydrophobia?

DR. W. C. VAN BIBBER said if the temperature stated would kill the organism of rabies, this should give a valuable idea on the treatment.

DR. WM. H. WELCH remarked in conclusion that many facts about rabies were known which could not be explained. It was not understood how the virus was transmitted along the nerves, but the fact remains; and still further, this did not seem to disturb the function of the nerve. It might extend along the lymph vessels of the nerves; we know little of the composition of the lymph. He did not mean to be understood as saying that the virus did not extend through the blood lymphatics, but that we have no evidence of this. In reply to Dr. Van Bibber, he said that the method of cauterization is a good one, but it does not prevent rabies. The virus must penetrate into the nerve to be transmitted by it, and the chance of piercing a nerve in the skin by puncture is very small.

Section on Psychology and Medical Jurisprudence.

DR. RICHARD GUNDRY, CHAIRMAN.

THE CHAIRMAN read a paper on the

RELATION OF THE PHYSICIAN TO THE INSANE, in which he spoke particularly of the frequency of monomania, and of the difficulties of recognizing true insanity by the unskilled, as a person may be entirely sane on many subjects and insane only on a few. A person totally insane has no recollection of a deed committed, while a person partly insane may remember the past partly.

SATURDAY, APRIL 27—FIFTH DAY.

Section on Microscopy, Micro-Chemistry and Spectral Analysis.

DR. CHRISTOPHER JOHNSTON, SR., CHAIRMAN.

THE CHAIRMAN read a report on: I. *The Application of Spectroscopy to the Study of the Blood*. II. *The American Objective as Compared with the German*.

Section on Ophthalmology, Otology and Laryngology.

DR. H. A. MCSHERRY read a paper on *Curability of Laryngeal Phthisis*; and DR. A. FRIEDENWALD one on *Distorted Equilibrium of the Muscles of the Eye in the Causation of Nervous Diseases*.

Volunteer papers were then read by DR. S. J. FORT on *Aphasia, due to Shock of Severe Consecutive Epileptic Spasms*; by DR. JOHN C. HEMMETER on *Recent Investigations on the Physiological Activity of Alcohol*, which was the result of three years' carefully conducted work in the Biological Laboratory of Johns Hopkins University; by DR. A. K. BOND on *Aneurism of the Abdominal Aorta Bursting into the Pleural Cavity*; and one by DR. GEORGE H. ROHÉ on *A Painless and Efficient Method of Extirpating Vascular and Pigmented Nævi*, with exhibition of photographs.

The following were elected for 1889-90:

President—Dr. A. Friedenwald.

Vice-Presidents—Drs. T. A. Ashby and Chas. G. W. Margill.

Recording Secretary—Dr. G. Lane Taneyhill.

Assistant Secretary—Dr. Robert T. Wilson.

Corresponding Secretary—Dr. Joseph T. Smith.

Reporting Secretary—Dr. Wm. B. Canfield.

Treasurer—Dr. W. F. A. Kemp.

Gynecological Society of Boston.

200th Regular Meeting, March 14, 1889.

THE PRESIDENT, W. SYMINGTON BROWN, M.D.,
IN THE CHAIR.

PATHOLOGICAL SPECIMENS.

DR. F. L. BURT exhibited a *fibroid of the uterus* which he had removed from an unmarried woman about 30 years old. It filled the vagina

and was attached by a small pedicle near the internal os uteri. The tumor, the size of an orange, was removed with considerable difficulty from its attachment, and when free it could be removed from the vagina only by the aid of the fingers in the rectum. The hæmorrhage, which had been considerable, gave no more trouble.

An interesting paper was read by AUGUSTUS P. CLARKE, M.D., entitled

FARADISM IN THE PRACTICE OF GYNÆCOLOGY.

In these days of brilliant theories and magnificent possibilities, he said, much is claimed in regard to the value of the galvanic current in the treatment of certain diseases of women. Results far in advance of anything that a generation ago the most enthusiastic advocates had even hoped for, have been achieved by Apostoli and his followers. The elaboration of this system of electro-therapeutics has been accomplished only by the expenditure of a vast deal of money and thought. Instruments and appliances the most ingenious, have been devised to meet the various phases and indications of what may be termed a normal departure, suggesting the adoption of remedial measures. The work in this field has many attractions, and is capable of satisfying the longings of natures the most ambitious, and of yielding a feeling of complacency, that can only be rivaled or reached by the eclat, that is sure to follow successful cases of laparotomy and ovariectomy. Indeed, the definition of the term electricity or electro-therapeutics of late in some quarters has become almost identical with galvanism. The display by the development of such special appliances are led to further inquiries in regard to the treatment of cases of a gynæcological class by the application of the faradic current. It is to be noted that the results obtained by the employment of this form of electricity have been most gratifying and give promise of the attainment of results which, without the employment of this current, could not be secured. Apostoli's method of treatment of chronic metritis and endometritis comprises an intrauterine chemical galvano-cauterization to be carried out in a strictly antiseptic manner. The sittings, though short, must be frequent if they are to be successful. The application of this method necessitates the use of special rooms and conveniences, which only a few among the larger operators are likely to have. Any departure from the prescribed plan is almost certain to be attended with much danger. When we consider the necessity of repeating frequently the sittings before we can even hope for success, we are forced to conclude that this plan of treatment will never become very popular. Operators, who have special conveniences and who have reason to hope for successful issue of the cases, will always prefer treatment by laparotomy or other surgical methods in which

the lives of patients in most instances are to be jeopardized but once, than repeatedly to incur risks by the method of chemical galvano-cauterization. In the employment of the faradic current we act upon the superficial blood-vessels, we modify the nutrition of the parts, we hasten absorption of extraneous matter. All this can be done without incurring that extreme hazard which usually accompanies methods by galvanization.

The faradic current has a markedly sedative effect upon the parts, and when judiciously and intelligently applied the patient often feels a sense of relief, and will return for further help. Even in cases in which marked inflammatory processes are present, the faradic current may be resorted to with much benefit. In a paper presented to the Association of Obstetricians and Gynæcologists, Washington, D. C., September, 1888, I reported several cases of salpingitis, in which the treatment supplemented by faradization was productive of much benefit. Cases in which the abdominal walls were soft and unusually relaxed from want of tone, or in which there was undue distension induced by various lesions were greatly relieved by the employment of the faradic current. The following cases are appended to show the more favorable results of the treatment.

Case 1.—Mrs. K., æt. 38 years, mother of one child, 13 years old, notified me July, 1888, that she expected to be confined in September following. I saw the patient July 21, and made careful examination, and found that she was not pregnant. Her menses had appeared at irregular intervals, but the distension of the abdomen was so great that she supposed herself pregnant, and had made elaborate preparation for confinement. The bowels were regular, she had fair appetite, and the urine appeared normal. There was some pain and tenderness over each ovary. The circumference of the abdomen was greater than normal and the patient fancied she felt foetal movement. The uterus was soft and relaxed and was anteverted, but not to such degree as to cause vesical disturbance. I began with the use of the faradic current with slow interruptions over the abdomen and the cervix, while over the ovaries on the outside frequent interruptions of the current were employed. Occasionally an intra-uterine electrode was employed while the other pole (usually the negative) was connected with the wire brush. The patient quickly improved under this method of treatment. Abdominal distension subsided, and the pain and discomfort in the ovaries disappeared. The sittings were continued at intervals of three days, and each occupied from five to ten minutes, and covered a period from August 14, to November 17, 1888, since which date she has been in good health.

Case 2.—Mrs. O., mother of three children, the

oldest 12 years, the youngest 4 years. This patient had been an invalid for several years. There had been an old perineal laceration though no prolapse nor any vesical disturbance. The cervix was thickened and indurated. There was no leucorrhœal discharge nor any history of an acute inflammatory process. The patient had worn several kinds of pessaries, but said that she had never experienced any special benefit from their use. The principal trouble complained of when she came under my care, was pain in the back and left ovarian region, and at irregular intervals attacks of severe pain in the head, attended with symptoms which showed that hysteria was an important element in the disease. As this patient had been under the usual routine of several able practitioners, I advised discontinuance of the use of all supporters and other means of treatment heretofore received, and began with employment of the faradic current. The treatment was commenced in the early part of August and was continued at intervals of three and four times a week; each application of the current lasting eight minutes. Over the more painful points the current with frequent interruptions was used. Along the muscles of the back and areas of great sensitiveness the current with slower interruption was selected. The negative pole with an intra-uterine electrode was applied. After the third application of the current the patient showed signs of improvement. The treatment was persevered in regularly for two months. After that the séances were continued at longer intervals. The treatment was supplemented with an aloetic purge and followed by the daily use of gentle aperients. The patient, though not fully restored to health, so far recovered as to be able to attend to her domestic affairs, and to go out and enjoy many of the comforts and pleasures of life. It is highly probable that eventually an operation for the restoration of the perineum will have to be undertaken.

Case 3.—Mrs. S., æt. 26 years, married five years, miscarried after the third month of pregnancy. The placenta was retained upwards of sixty days. When I was called there was flowing and a fœtid discharge. I succeeded in effecting an entire removal of the placenta. The patient after that rapidly improved, but was anæmic, and the tissues were soft and relaxed. After four months the patient returned to me complaining of vesical disturbances. Vaginal examination showed that the uterus was retroflexed, and that there was a well defined cystocele. The uterus was restored and the patient was directed to urinate at short intervals, and to avoid if possible the occurrence of over-distension of the bladder. After the lapse of six months, there being still considerable vesical disturbance, faradization was begun. Slow interruptions of the current were employed in the cul-de-sac on

each side and over the abdomen. The séances were made every third day for four weeks and then at intervals of once a week. After the second month the patient considered herself to be cured. Recent examination showed that, though the patient had received no treatment for nearly six months, the cystocele had not returned, and the retroflexion was of no consequence. The patient is now strong and in good health.

Case 4.—Mrs. R., aged 38 years, mother of two children, the youngest of whom was 15 years. After the last confinement she suffered very much from catarrhal endocervicitis, but the menses have appeared regularly. Vaginal examination showed that there had been a multiple laceration of the cervix, but the cicatrization was fully established. The cervical canal was preternaturally sensitive. The perineum had been lacerated, but nature had partially restored the rent. The uterus was retroverted. The principal trouble complained of when the patient came under my care eight months ago was pain in the ovaries. These could be distinctly felt and were not displaced. There was pain also in the back, from the lower dorsal vertebræ to the coccyx. The tendon reflex was markedly increased. The patient suffered from frequent attacks of "blinding headache." The urine was heavily loaded with urates. Under ether I curetted thoroughly the cervical canal. The uterus, after being restored, was kept in place by vaginal tampons. Butcher's meat was interdicted, and the bowels were kept open by gentle aperients. The patient improved under the treatment. After the lapse of three months slow interruptions of the faradic current were tried every third day for five weeks, and for the next four weeks once in every four days. Subsequently once in two weeks. The treatment by faradization occupied upwards of four months, and its good effect was shown by the disappearance of the increased tendon reflex and the return of strength and appetite. All pain and tenderness vanished, and the local lesions now give no trouble whatever.

Case 5.—Mrs. S., aged 38 years, mother of one child 4 years old. The patient recovered well from confinement and was in good health until January, 1888, when she sustained injuries from being thrown from a carriage. She suffered much at the time, was confined to bed. There was severe pain in lower part of back and in the bladder. She suffered more or less in micturition. There was no uterine displacement, but a sharp pain and soreness in the right ovary was complained of. After two months of rest and treatment the pain and soreness disappeared, except that in the ovary. The ovary of that side must have been affected by the shock and concussion sustained. In March following, faradism was tried. The positive pole was applied over the abdomen, and more particularly in the right in-

guinal region and in the right cul-de-sac. The other pole was applied along the lumbar and sacral portions of the spine. The wire brush on the outside was also used. The patient showed improvement after the third séance. The sittings were continued at intervals of two and three days until April 15th. Since then no further trouble has been experienced from the ovaritis, and the parts have resumed their normal functions.

Case 6.—Mrs. A., æt. 41 years, mother of three children, the youngest of whom was 9 years old. For the past five years the patient had had several attacks of rheumatism, necessitating at the time of each attack confinement to bed. When I was called she was recovering from one of these attacks which had continued from Sept. 10th to Oct. 24th. There was swelling of both knees and ankle joints, but the greatest amount of suffering appeared to be centered in the pelvic organs, especially in the uterus and its adnexa. Mineral waters and saline laxatives were employed. The use of meats and nitrogenous food was discontinued, and milk and light articles of diet were prescribed. The patient rapidly improved under the change of treatment and on Nov. 1st was free from the rheumatic affection, except weakness and discomfort in the back and genito-urinary organs. The patient was unable to walk without the aid of a cane or crutches. There was uterine dyskinesia, though no marked flexion of that organ could be made out. There was a sensible diminution of the tendon reflex and almost an entire absence of the ankle clonus. At this time treatment by faradization was begun, and continued until Dec. 12th, when the pain was overcome and the patient able to walk without artificial help. The reflexes have returned to their normal condition. The current with slow interruption was applied every second day.

Case 7.—Mrs. L., æt. 22 years, while walking on a country road during the evening of Jan. 15, 1888, sustained a fall over an embankment. At the time of the accident uterine hæmorrhage occurred. The patient is said to have complained bitterly of pain in the right hip and back. She was under treatment for six weeks, at the end of which time she had so far recovered as to be able to return to her home. The patient came under my care on the 10th of the following May. Vaginal examination showed that there was a marked ante flexion. There was vesical disturbance and considerable difficulty experienced in walking or in attempting to make any considerable exertion. A Hodge pessary gave only partial relief, but was worn until August 3d, when I removed it permanently, and began with faradic current with slow interruptions. Each séance lasted ten minutes and was repeated every third and fourth day. After the sixth application the uterine tissue appeared firmer and the organ itself on being restored retained its position much

longer than before. The treatment was persevered in until October 8th, when the patient regarded herself as well as usual. Vaginal examination showed that the uterine flexion existed in a minor degree only.

In reviewing the histories and symptoms of these cases we find inflammation attended with more or less pain, and some form of neurosis was a prominent feature, and that the application of the faradic current was productive of much benefit. In Case 1, the current with slow interruptions had the effect of stimulating the relaxed muscular tissues, and of giving tone and vigor to the parts. In Case 2, the pain and reflex symptoms were relieved, and the strength and health improved, and should an operation for the restoration of the perineum be deemed advisable, the patient will be in much better condition to insure recovery. Case 3 shows the beneficial effects of the current with slow interruptions. A cystocele induced by overdistension of the bladder in a subject of weakened and relaxed muscular tissue was at length fully overcome by prolonged application of the current. Case 4 shows also benefit derived from the same current in controlling the tendon reflex and nervous excitability. Case 5 illustrates the therapeutical advantage of faradism when the wire brush is used. In the treatment of inflammation supervening shock and concussion of the ovary. Case 6 further shows the help to be derived from continued application of the faradic current in restoring reflexes to the normal condition and in exciting healthy action in the genito-urinary organs. The last case in some respects, like Case 3, exemplifies the tonic effect that may be obtained by the employment of the same current on relaxed uterine tissues.

I am in possession of notes and records of some thirty other gynecological cases in which faradization was resorted to with favorable results. In twelve of these the application was made to overcome pain and nervous disturbance arising from various lesions requiring operative interference, viz.: six for pyo-salpinx and salpingitis, four for lacerations of the perineum and of the cervix, one for uterine polypus and one for urethral vascular growths; and in nine to overcome pain and nervous phenomena due to functional disturbance, viz.: three for subinvolution, four for leucorrhœal and gonorrhœal pain, one for neuralgia of the ovary, and one menorrhagia. In two the application was made on account of amenorrhœa, in four for cystitis, and in three for hysteria and loss of power in arm and leg. These cases I report not with the view of establishing a claim for originality in treatment or for the purpose of setting aside other well-tried and settled methods, but in recognition of the fact that we have in this form of electricity for properly selected cases, after other means have failed, an agent capable of yielding most gratifying results.

DR. W. G. WHEELER said that he was glad to see a return to faradization. A good degree of success had been attained by Dr. Cutter by his method of treatment. He had in one case used Cutter's battery in treating a large tumor reaching above the umbilicus. The shock produced is profound, and it is necessary to etherize the patient. One needle was introduced through the rectum and the other through the abdominal wall. The current passed for seven minutes. An abscess was produced, which discharged for several months. The operation was performed a year and a half ago, and the tumor is now quite small and the sinus is closed.

DR. A. L. NORRIS has found better results from the use of the interrupted current. For the last eleven years he has used a battery made by Kidder, of New York, on a large number of cases with success. He has had good results in the treatment of amenorrhœa by faradization. For this, one pole is usually placed on the nape of the neck and the wire brush is applied over the loins, but sometimes he uses an intrantrine electrode.

DR. G. W. JONES: I think that Dr. Clarke should be complimented on the good results he has obtained from faradization. If we could all get such results we would be highly gratified, and not without reason; for the remedy is at once so simple and easy of application. For my part, however, I have not been able to obtain such encouragement. I have been using faradism for more than sixteen years in just such cases as Dr. Clarke has spoken of and, although I have sometimes thought improvement resulted, there was not such a decided benefit as to make me feel hopeful of very brilliant success. I say this of the faradic current when used exclusively. I have no doubt but that a judicious use of the faradic current may be of some benefit in many cases of leucorrhœa and simple metritis and ovaritis and neuralgia of the uterus and ovaries. Also in some cases of hysteria due to pain in the locality of the generative organs, it might have a moral if not a physical influence; but when the various disturbances of the female reproductive system are due to morbid tissue changes in those organs, I believe that faradism will have little if any influence on those morbid conditions. In such cases galvanism is going to do the most valuable service. We do not want to stimulate cell-growth, but rather retard or destroy such cell proliferation, and in the galvanic current we have an agent that will do that in the best manner, if it is used in a careful way. For all ordinary purposes, an apparatus consisting of 24 to 36 cells of McIntosh or Wait & Bartlett make will be sufficient to do the work of a general practitioner.

One of the greatest drawbacks to the use of galvanism to my mind, is the high cost of a good galvanometer to measure the current used. A

reliable instrument costs so much that few general practitioners are willing to afford the outlay when they so seldom use it, and I believe if we are to use an agent so potent for good or evil, that the dose administered should be as accurately measured as strichnine or morphine. If we expect so get exact results from our practice, we ought to know exactly how those results are obtained in order to have them of practical value.

DR. F. L. BURT: There seems to be no doubt that all are not equally successful in their results from the use of electricity. The enthusiast, who thinks it the only agent of good, is no doubt over sanguine and probably reports too favorably. He who decries it, on the other hand, has doubtless not taken the trouble to investigate properly. I am not so enthusiastic as to use this agent to the utter exclusion and denial of everything else, but I do know that it is of value and I have frequently been gratified at my results. Failure is very frequently due to a lack of knowledge in the application on the part of the physician, and a very frequent cause of failure is due to the use of poor batteries. A good battery is a necessity. Many of those on the market are good toys, but are almost useless in the treatment of gynecological cases. Two coils, coarse and fine wire, with a slow and a rapid vibrator, are necessary. I have used the faradic current with much satisfaction as an external application for its soothing effects, to ease pain, to stimulate muscles to contract, to test reactions in certain nervous affections, to increase peristaltic action, etc. In gynecological cases it has been of great service in some cases of amenorrhœa, to cause more regular menstruation, to ease menstrual pains and to relieve general pelvic pain. In cases of relaxed tissues or prolapse of the pelvic organs, there is a slow but beneficial result. The method of application and kind of electrode used to have much to do with the success in any given case. The reader has said very little about the method of application, but although it is quite important perhaps the profession is sufficiently informed in respect to it.

In the early part of his paper the reader gave me the impression that he laid a great stress on faradism and little if any on galvanism. Faradism has been used more commonly in the past, and I think with better results, but this could only have been because there was less knowledge of the use of galvanism. This is not so to-day. Without speaking at all disparagingly of either variety, I think that no one, who has thoroughly tried both kinds, will hesitate for a moment to give the preference to galvanism as the most generally useful electrical current. There is no longer doubt of its value in treating fibroid tumors. In some cases the results are excellent, yet it is equally true that there are cases which cannot be benefited by its use, and surgery must

come in for a certain number of cases. The symptoms are usually relieved or cured, discharges are lessened or entirely stopped and hemorrhage is checked. Galvanism will stop hemorrhage which is due to the presence of a fibroid or other intra-uterine causes, but is of no use when due to pelvic troubles external to the uterus. There is a class of cases of fibroid associated with diseased tubes or displaced and adherent ovaries, which is not benefited by electricity. These need surgery. I reported a typical case of this kind in the *Boston Medical and Surgical Journal* of January 24, 1889. Inflammatory pelvic deposits are absorbed by the use of galvanism. On the other hand, a point of considerable importance which I have mentioned before, the cases, diagnosed as pelvic cellulitis and which are frequently pyo-salpinx, are treated by galvanism and not benefited. This is due, according to my experience, to the fact of the presence of pus. In other words, pyo-salpinx or pelvic abscess is not relieved by galvanism, and this fact may aid in the diagnosis of the case. I have reported a typical case of each kind, for which see same reference as above. In the treatment of the disorders of menstruation and of diseases of the endometrium, I have thus far had decidedly beneficial results. Some cases in which there is more or less constant pain in the region of the ovaries in which the diagnosis varies, have been cured by the use of galvanism. There are also many conditions in which galvanism is useful, which I will not take your time to speak about, and still others which I am as yet investigating and hope to make a report in the future. Electricity, galvanism especially, should not be used by persons who are ignorant of it as a therapeutic agent, and the physician who is to employ it should be well versed in respect to its actions, and should know thoroughly the construction of the machine which he is about to employ.

DR. W. S. BROWN said that the cases detailed by the reader were very interesting, and of practical value. He believed that the primary faradic current exerted a remarkably soothing influence on excitable patients, under which they sometimes fell asleep during its administration. As he had several times related to this society, he was present when Dr. E. Cutter (now of New York) made his first attempt at electrolysis in Melrose, Mass. Dr. Kimball, of Lowell, also assisted, but, on account of the needles used being too slim, we did not succeed in penetrating the fibroid tumor. He was still in doubt whether the success in subsequent operations was due to electrolysis or to shock. Like all similar operations, it is not free from danger; and, in many respects, differs from Apostoli's.

DR. A. P. CLARKE: In closing the discussion the speaker said that he should offer only a few remarks. In the first place he would state that

he did not wish to be understood as holding to the view that the faradic can be substituted for the galvanic current. It is true, he said, that he had referred to the achievements of Apostoli and his followers, but that treatment comprises chemical galvano-cauterization. In order to insure success when adopting Apostoli's method, instruments of peculiar construction must be employed, and their application must always be made under the strictest antiseptic precautions. For this reason he believed that method of treating certain morbid lesions would never be popular, but other methods would be resorted to to accomplish the same results. The cases that are benefited by faradism are often radically different from those that may be benefited by galvanism, the former can be treated with comfort and safety to the patient and with satisfaction to the physician. The report of the 37 cases as given in his paper, as well as of those that he had already published, the speaker remarked, attest in some measure the benefits that may be secured by faradism. Something has been said in regard to the employment of the faradic and the galvanic current in the same case; the moral effect of such treatment may occasionally be of benefit, but the nature of lesions requiring the use of the galvanic and faradic current often being so different, he very much doubted whether, in the majority of cases, any permanent improvement resulted by their admixture. The speaker made mention of the helpful effects of the faradic current with slow interruptions in cases of weakened and relaxed muscular tissue; he referred particularly to Case No. 3 in the paper, in which a cystocele induced by overdistension of the bladder was cured by prolonged applications of that current. For overcoming pain and nervous excitability, the faradic current with frequent interruption was employed. He also referred to the results mentioned in the discussion by Dr. Burt, that were obtained by a fine and by a coarse coil of wire in his battery. The distinguishing features of these respective currents are important considerations. By keeping this principle in view the operator will often be successful with his cases; by neglect, however, utter failure may result. Reference has been made to Dr. E. Cutter's method of electrolysis, though a consideration of that method of operating is hardly germane to the subject now before the Society, the speaker would venture to remark that he had been favored with an opportunity of seeing some of the earlier cases of fibroids treated by that distinguished operator. He believed that Dr. Cutter should have the honor of being the originator of the treatment of uterine fibroids by electrolysis, and that he is deserving of great credit for the good work he so early accomplished.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York Academy of Medicine—Dr. E. F. Brush read a Paper on the Relationship Existing between Human and Bovine Tuberculosis—Discussed by Dr. H. M. Biggs, Dr. Forrest, Dr. Grandin and Dr. Loomis—Signs of the Moribund Condition, by Dr. John Shrady, etc.

At a recent meeting of the Academy of Medicine Dr. E. F. Brush, who for some time past has been making a special study of this subject, read a paper on *The Relationship Existing between Human and Bovine Tuberculosis*, in which he advocated the doctrine that tuberculosis in man is derived directly from the bovine species, and claimed that if domestic cattle could be done away with, tuberculosis would in the course of a few years become extinct, since while it has been conclusively demonstrated that the disease can be transmitted by the cow to her offspring, there is no proof that such transmission ever takes place in the human subject.

Phthisis, he said, was not, as many supposed, the result of civilization, since barbarous and uncivilized races were afflicted by it as severely as many of the most advanced civilized peoples. Neither geographical position or climatic conditions were a factor in its distribution, although every part of the globe, with the exception of a few isolated areas, was a habitat of the disease. After several years of close study of the affection, including a consideration of all available statistics and the habits of the people where it prevails, he said he had arrived at the conclusion that the only constantly associated factor is found in the inbred bovine species. If a community was closely associated with inbred dairy cattle, tuberculosis prevailed there, and this position he believed susceptible of proof.

After referring successively to statistics relating to phthisis among the Hottentots of Africa and the Kirghises of the steppes of Russia, and in Denmark, Iceland, the island of St. Michael in the Atlantic Ocean, Greenland, South America, Australia, New Zealand, the Highlands of Scotland, North Wales, the Hebrides, Switzerland, Madagascar, Algiers and Greece, he stated that in studying the relations, as regards tuberculosis, between the human and bovine races, religion was found to play a considerable part. Thus, in India, with the Mohammedan, Brahmin and Buddhist religions, there was undoubtedly an absence of phthisis before the English occupation. Up to that time the only cow the inhabitants had was the small Hindu variety, not related to our dairy cow, and it was regarded as an object of veneration; while the milk used in the country was de-

rived from the buffalo. All the Buddhists and many of the Brahmin castes abstained from the use of meat in any form. There was, however, a constant change taking place in a country like India. Prejudices were gradually dying out, and many of the people had undoubtedly adopted the habits of their conquerors. The English dairy cow was slowly but surely finding her way into India; though the Buddhists and Brahmins would, of course, be the last to accept the cow as a food producer.

In considering the statistics of Europe he said it would be found that the prevalence of phthisis is regulated by the ratio of the bovine to the human race. Thus, in Ireland, where the cattle about equaled the human population in number, and in Denmark, with about the same ratio of cattle to inhabitants, the disease was about equally prevalent. In Portugal, where there are six inhabitants to one bovine animal, phthisis attracted so little attention that but few notices relating to the disease in that country could be found. Comparative immunity from the disease, corresponding with the small number of cattle, was also met with in many parts of Italy and Egypt. From the statistics that he produced Dr. Brush thought there could be little doubt that the inbred species of the bovine race is the prime etiological factor of tuberculosis in the human race. They not only fostered the germ and prevented its extinction, but sowed it in the human race, continually and abundantly. Without their aid the germ would perish, for of all germs known, none had so hard a struggle for existence in man as the bacillus of tubercle; as was shown by the fact that out of the immense number of individuals who were exposed to its infection, so comparatively few contracted the disease. After diligent search he had failed to find a single well authenticated case on record of a human foetus at term showing evidence of tuberculosis; and the cow was the only known animal that thus transmitted tuberculosis to her offspring.

In concluding his paper Dr. Brush said: Man cannot generate new forms, but he can so control and interfere with nature's processes as to modify the original design. Inbred cattle are selected, sheltered and pampered, so that they would be unable to withstand the rigorous conditions of the wild state. They propagate earlier, are larger milkers, and are more efficient beef-producers, while their meat is more delicate and tender than that of the wild animal. All this is achieved by man at the expense of his own health.

In the discussion of the paper Dr. H. M. Biggs, of the Carnegie Laboratory, said that he could not but dissent very strongly from the conclusions reached by Dr. Brush. It was well known how unreliable statistics were. He believed that the statistics given in the paper were not strictly true; but even if they were true, he did not think they would prove the correctness of Dr. Brush's posi-

tion, for the reason that they left out of consideration all the other factors concerned in the production of tuberculosis. Having criticised some of the statements made in the paper in regard to the prevalence of phthisis in some of the countries and places mentioned, he stated that in Chili the disease had of late years become very common, although there had been no marked increase in the number of inbred cattle to account for this. Again, in the Sandwich Islands the population was dying off from phthisis; but this was not because of the presence of inbred cattle, but was due to the spread of the infection by white settlers. The same was true of the American Indians. They did not possess many inbred cattle; yet phthisis was very fatal among them.

Dr. Brush, he said, had left entirely out of account the influence of age, altitude and occupation, which had been shown to be very important etiological factors. If tuberculosis was often conveyed by means of milk the disease ought to be much more common among young children, who lived almost entirely upon this food, than among any other class of individuals; while as a matter of fact it was quite rare among this class. The facts appeared to show that phthisis is most prevalent among the highly civilized nations and among the native populations of uncivilized countries, which are brought into more or less constant contact with foreigners from civilized countries. It seemed to him that Dr. Brush had started out with the preconceived idea that phthisis is derived from the bovine species, and had endeavored to make all the facts he met with in connection with the disease subservient to this preconceived notion. The only observations which carried out this idea were based on statistics which, as he had said, he believed to be unreliable, and which would only be of value if they were collected with the greatest possible care, and with all the other conditions affecting the production of phthisis also taken into consideration.

In all civilized countries there are to be met with these other elements (and particularly that of occupation), which enter into the causation of the disease. Confinement in close, ill-ventilated apartments had a most pronounced effect upon males and females alike. More than this, the theory propounded in the paper was entirely inadequate to account for the marked prevalence of phthisis among armies and the inmates of prisons. Again, other things being equal, the disease was found to prevail in proportion to the density of the population.

We could not but regard Dr. Brush's conclusions as unfortunate, especially if they should be accepted, since they would have the effect of diverting attention from the most important mode of origin of phthisis, viz: transmission from the human subject. If the disease were derived from

animals it could only be through the avenue of the alimentary canal; and it was a well-established fact that the number of cases in which the infection enters the system through the alimentary canal is exceedingly small. In the case of animals fed on tuberculous matter the resulting tuberculous disease, when such occurred, was found to be located in the alimentary canal, not the lungs; and there was every reason to believe that the same would be true in the case of the human subject. In tuberculous animals, moreover, the milk was not infected with the bacillus unless the mammary glands are implicated in the tuberculous disease.

It seemed to him ill-advised to look for the cause of the trouble in this unlikely source (from animals), when there were so many ready ways by which the human system might become infected with tuberculosis. One of the most prominent of these was undoubtedly the sputum of tuberculous patients. The sputa of all such individuals abounded in tubercle bacilli, and when it was remembered how large was the quantity of the expectoration of consumptives and for how long a time the disease often lasted, it could well be appreciated what a source of danger to others this constituted. The sputum was apt to be scattered all around, and on its becoming dry the bacilli it contained often floated about with the dust in the air. The bacillus was the universally recognized special cause of tuberculosis, and it might thus be seen how readily it could be inhaled in this way, and so brought into direct contact with the lungs, which are the ordinary seat of the disease. Although he felt convinced that a much larger number of cases of phthisis really originated from animals than was generally supposed, this class, there was every reason to suppose, constituted but a small number of all the causes of the disease.

Dr. Forrest said that in certain sections of the Southern States with which he was familiar phthisis was almost wholly unknown among the whites, but was quite common among the blacks. Yet far more fresh beef and milk were consumed by the white population than by the negroes, who lived principally upon corn and pork. It was also a fact that a very fine stock of cattle was now raised in these same districts. He could not see how, therefore, this condition of affairs could be reconciled with the theory of Dr. Brush.

Dr. Grandin said that a little more than a year ago Dr. M. D. Blain had stated in a paper read before the Section of Public Health of the Academy that 2 per cent. of all cattle killed in the New York abattoirs and 21 per cent. of all the milch cows in the country were affected with tuberculosis.

The President, Dr. Loomis, said it seemed to him that the position taken by Dr. Brush was too narrow a one, and that any one who assumed that phthisis is due to one cause alone was beg-

ging the question. It was a disease that had many causes, and the bacillus which constituted its special etiological agent would not give rise to it unless it met with conditions which favored its development. Among the conditions to be taken into consideration were climate, hygienic surroundings, heredity and soil, and a long list of causes must be in operation before the bacillus was able to do its specific work.

In closing the discussion Dr. Brush said he thought that his position had been somewhat misunderstood. He did not wish to imply that the disease was derived alone from the cow. All that he pretended to claim was, that wherever in-bred cattle existed, there we found phthisis also. It needed no proof to show that but a small proportion of individuals who were exposed to the infection contracted the disease, since, although the number of deaths from phthisis was certainly very great, it would be infinitely larger than it is if this were the case. In addition to the bacillus, there must be present the conditions favorable to its development, as Dr. Loomis had stated.

But, at the same time, he believed that the disease was originally derived from the bovine species. He did not believe that less than 50 per cent. of all dairy cattle were affected with it, while the statistics which he had quoted showed that wherever there was a race of people without cattle phthisis was unknown. He believed, furthermore, that if all the cattle in this country were to be killed the disease would finally die out entirely here. In countries where dairy cattle were introduced for the first time it took a series of years for the disease to become established among the population, as was the case in Thibet and Ceylon; and, in the same way, if all the cattle were removed from a country phthisis would also disappear in the course of some years. Even after the disease had become firmly established, he did not believe that it could maintain its existence indefinitely after the removal of all cattle. He did not wish to rely on statistics except so far as they substantiated the main point that he made, that wherever cattle existed there phthisis also existed. As to the mortality among prisoners, etc., he was quite willing to acknowledge that the infection was derived from persons affected with the disease, and that the existing conditions were peculiarly favorable to the development of the disease. The practical outcome of the whole matter, to which he desired to call special attention, was that the prevalence of phthisis could undoubtedly be diminished by properly regulating by law the breeding of cattle, so that the in-breeding now so common might be done away with.

At the last meeting of the New York County Medical Association Dr. John Shrady read a paper on *Signs of the Moribund Condition*, in which he brought out a number of interesting points. He laid considerable stress upon prognosis, as being

a much neglected study, even though to the patient it was of paramount importance, as involving many questions of individual, legal and social importance. The dying state, he said, could never be arrested. Once begun, it could end only in one way. His conclusions were that, in general, the most trustworthy signs of death are those that appeal to the eye; that among these the respiratory function holds the first rank, both in cases of coma and asthenia, and especially where the two modes of death are combined; that the death by coma has a more extended period of duration; that the most valuable sign of inevitable dissolution is the up-and-down movement of the *pomum Adami*; that temperature changes deserve attention, particularly when the curves are sharp, high and continuous; that intermittent pulse is an early sign of death, particularly when not due to any disturbed action of the nervous system; and that deaths from syncope are too sudden to admit of much observation or study.

P. B. P.

The Causation of Pneumonia.

Dear Sir:—This is an attempt to summarize certain evidence presented in the valuable "Introduction to the Study of Pneumonic Fever" by Edward F. Wells, M.D., being published in THE JOURNAL, and to group that evidence relative to epidemics by seasons of the year with evidence relating to the increase and decrease, by seasons of the year, of pneumonia other than epidemic.

On pages 259-262 of THE JOURNAL for Feb. 23, 1889, Dr. Wells gives a table of chronology of epidemics of pneumonia, stating the country, the year, and the season of the year, in which each epidemic occurred. I have footed his column relative to the season of the year, and find the result as stated in my Table I as follows:

TABLE I.—The reported epidemics of pneumonia in the Northern Hemisphere during the 48 years, 1440-1888, reported by seasons, and estimated by months. (From data in a table on pages 259-60, THE JOURNAL, Feb. 23, 1889.)

Winter.			Spring.			Summer.			Fall.		
Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July.	Aug.	Sept.	Oct.	Nov.
13	25	51	57	27	12	3	1	0	1	3	5
Total 89.			Total 96.			Total 4.			Total 9.		

The study of the subject by quarters of the year is not as satisfactory as by months, and especially as I wish to compare the result with my previous studies of sickness from pneumonia by months; therefore I endeavor to learn the probable grouping of epidemics by months.

In Table I, I find that the least number of

epidemics (4) occurred in the summer, and that the greatest number (96) occurred in the Spring. The quarter in which occurred the next to the least number was the fall, therefore the *month* of least epidemics must have been in the summer quarter, but nearer the fall than the spring, it must have been, then, in August. The month of maximum epidemics must have been in the spring, but nearer to the winter than to the summer quarter, therefore in March. Given the months of maximum and minimum epidemics, and dividing the epidemics actually reported in each quarter among the several months so that the month in each quarter to which the largest

TABLE 2.—The average per cent. of weekly reports stating presence of sickness from pneumonia in Michigan and average atmospheric temperature, by months, during the eight years, 1877-84. Also, of the reported epidemics of pneumonia in the Northern Hemisphere during the years 1440-1888, the numbers by months. (The data for the reported epidemics of pneumonia is from THE JOURNAL, Feb. 23, 1889, pages 259-60. The data relative to sickness from pneumonia and average temperature are from the Annual Report of the Michigan State Board of Health for 1885, pages 26 and 128.)

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Sickness from Pneumonia in Michigan.	62	66	62	56	42	27	17	11	18	23	36	48
Average Temperature in Michigan.	21.43	25.60	31.04	44.48	56.60	65.54	70.68	68.85	62.05	51.34	35.09	27.25
The reported Epidemics of Pneumonia.	25	51	57	27	12	3	1	0	1	3	5	13

TABLE 3.—The average cases of sickness from "Respiratory Disease" per 10,000 of the native troops in India, and the average atmospheric temperature, by months, during the three years, 1883-85. Also, of the reported epidemics of pneumonia in the Northern Hemisphere during the years 1440-1888, the numbers by months. The figures for the reported epidemics of pneumonia are from data in THE JOURNAL, Feb. 23, 1889, pages 259-60. The figures for sickness from "Respiratory Disease" and for average atmospheric temperature are from data in the 20th, 21st and 22d Annual Reports of the Sanitary Commissioner with the Government in India.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Sickness from "Respiratory Disease" in India	102.8	71.6	51.8	38.6	33.8	26.6	25.5	23.7	31.8	37.7	50.9	93.8
Average temperature in India	68.7	70.6	79.4	83.9	86.2	84.8	83.3	82.7	82.3	80.5	74.2	69.4
The reported epidemics of pneumonia.	25	51	57	27	12	3	1	0	1	3	5	13

probable numbers by months are as stated in the upper line of figures in Table I.

Having, now, the epidemics by months, it is possible to compare them by months with the atmospheric temperature, and with the sickness from pneumonia as recorded in Michigan for many years. This is made possible by Table 2

The epidemics all seem to have been in the Northern hemisphere, but many of them in climates much warmer than that of Michigan. Inasmuch as it is impracticable to learn just what the average corresponding atmospheric temperature was, it seems best to study the relation of the epidemics to the actual temperature not only in a cold climate, like that of Michigan, but also in a warm climate like that of India. Accordingly the relation in the warm climate is shown in my Table III.

The study of such relations as this of sickness to atmospheric temperature by means of Tables, is complicated because the changes in the sickness may not all be coincident with the temperature changes, but may lay behind them. For this, and other reasons the most satisfactory method of studying such subjects is by means of diagrams, accurately drawn to scale, so that the relations between supposed cause and effect in any one month and of cause or effect in each and every month of the year may be seen at a glance.

Dr. Wells says: "There can be no doubt as to pneumonic fever epidemic as well as sporadic—everywhere and always being due to the action of a single peculiar and specific morbid material." Without attempting to affirm or deny this, I respectfully submit that the evidence which he has supplied in his Table of Epidemics, taken with the evidence heretofore collected by myself,² seems to prove that pneumonia—"epidemic as well as sporadic—everywhere and always" is absolutely controlled by the atmospheric temperature, or by conditions associated therewith.

HENRY B. BAKER.

Lausing, Mich., March 18, 1889.

Intubation of the Larynx.

Dear Sir:—An editorial appears in the April 13th issue of your valuable journal, on intubation of the larynx, that conveys an impression that, I hope, was not intended. The impression conveyed is, that intubation being a bloodless operation, is readily consented to, and is performed early and often unnecessarily. Such an impression also prevails extensively among the profession, and it is often said, "Oh! well! all those cases would get well any way." Such statements are peculiarly aggravating when we

¹ THE JOURNAL, Feb. 23, 1889, p. 263.

² Published in article entitled "The Causation of Pneumonia" in Annual Report, Michigan State Board of Health for 1886, pp. 246-324 and in other articles on allied topics, in the past few years.

number is assigned shall be next to the quarter in which the larger number is reported, the

remember how many times we are called to perform intubation because the patients are too far gone for tracheotomy, too young, or because the cases are of a too malignant nature to sanction a cutting operation. It must be remembered that nine-tenths of all these cases are in consultation with other doctors, and we are called only as a last resort when all other measures have failed, and when it is evident that death must soon ensue. Many of these cases are moribund, unconscious and well nigh hopeless, others are young, and others again of a malignant nature, so that the favorable cases are few and far between; and yet it is said that the operation is performed early. Such a statement is a reflection not only upon the operator but upon the attending physicians as well.

To illustrate the condition of many of these patients, allow me to mention a few cases.

November 27.—I was called by Dr. O'Malley to see a little girl of 7 years suffering from semi-malignant diphtheria; nasal, pharyngeal and laryngeal. The parents at first objected to the operation, and emetics were repeatedly given in addition to other medication; these failing to give relief, and it being perfectly evident to the parents that the child was surely strangling, consent was given. The doctor acknowledged that the case was too unfavorable for tracheotomy. The child wore the tube four days and recovered completely.

November 30.—I was called by Drs. Steele and Jacques to perform the operation upon a baby 18 months old, "too young for tracheotomy." *Patient recovered.*

December 3.—I was called by Dr. G. W. Webster to operate upon a little girl 4 years old, with semi-malignant diphtheria with invasion of the larynx. The patient was surely dying and "too unfavorable for tracheotomy." The child wore the tube five days and recovered.

January 1.—I was called by Dr. Jacques. Patient 8 years old, moribund, unconscious, limp, and pulseless at the wrist. The tube was introduced without resistance and artificial respiration performed. The patient revived and fully recovered. The doctor stated the child would have been dead in ten minutes.

January 5.—Through the courtesy of Dr. A. L. Thomas, I was called to operate upon a baby 18 months old and moribund, "too young and too unfavorable for tracheotomy." Patient revived, returned to consciousness, but died two days later.

January 10.—Through the courtesy of Dr. Parsons, operated upon a baby 17 months old; moribund at the time of operating. Patient died twelve hours later.

January 18.—Through the courtesy of Dr. Miller, operated upon a baby fifteen months old, "too young for tracheotomy." Patient recovered.

March 12.—I was called by Dr. Kippax to operate upon a boy 7 years old, Drs. Guerin and Jacques being present. The patient was unconscious, comatose and actually dying, but revived and fully recovered.

March 14.—Through the courtesy of Dr. Simons operated upon a patient 5 years old, with malignant diphtheria of the nasal cavities, pharynx and larynx. Patient died from asthenia.

April 8.—Through the courtesy of Drs. Gatchell and Mitchel operated upon a little girl 8 years old, suffering from malignant diphtheria with invasion of the larynx. The patient was moribund, extremities cold, and clammy and pulseless. The patient fully revived, but died the next day from the malignancy of the disease.

April 24.—I was called to see a boy 4 years old a patient of Dr. Marks' who was present at the operation. The boy was upon the point of death from diphtheritic laryngeal stenosis. The child was unconscious, the lips were of a dark purple, almost black, the pulse could not be detected at the wrist, and the child was certainly dying. When the patient had reached this deplorable condition I was hastily summoned, and found the attendants hovering over the child waiting for the last gasp to prove that life was extinct. The operation was performed and artificial respiration resorted to before consciousness was restored. The child fully revived, but died as a result of the hypostatic congestion of the lungs. These are only a few cases among many of like nature, but a sufficient number to prove, I hope, that the operation is not performed early or unnecessarily. Yours respectfully,

F. E. WAXHAM, M.D.

240 Wabash Avenue.

Climatic Influence in Phthisis.

Dear Sir:—In a recent editorial (page 523) THE JOURNAL called attention to the importance of "knowledge concerning the elements that give special character to climate and their influence on the functions of the human body" . . . knowledge "essential" . . . to "every practitioner, who would do justice to those who depend upon him for advice." And yet, as indicated in the editorial, the records of *facts* necessary to give us such knowledge are not usually to be had; we usually obtain only the *opinions* of those who write on this subject, based upon experience which may be valuable, but which opinions, after all, do not greatly advance the science of climatological etiology. It was to supply such records of facts, the absence of which was deplored in the editorial just referred to and in the article by Dr. Denison mentioned therein, that the paper which followed Dr. Denison's at the International Medical Congress, was prepared and

read; I refer to the article entitled, "Relations of Certain Meteorological Conditions to Diseases of the Lungs and Air-passages as shown by Statistical and other evidence." The statistics included tens of thousands of weekly reports of sickness, and records of hundreds of thousands of deaths from phthisis and from disease of the air-passages, in this country and in other countries. These statistics were studied in connection with statistics of the meteorological conditions, and were found to be harmonious; and the writer considered it proved "that the rise and fall of [phthisis and] the diseases of the air-passages are controlled by the atmospheric temperature, and that this is accomplished mainly through the quantity of vapor of water abstracted from the air passages." In the discussion which followed these papers, the writer expressed the opinion that this was a general law,—that if there could be obtained records of phthisis and meteorological conditions in Colorado their relations would be found to be the same as has been found to be true elsewhere, wherever the subject has been studied. If any one doubts this generalization, what is needed is that the facts be recorded, in each locality respecting which there may be doubt, and that these records of facts be brought forward, that they may be studied by those of us who are interested in the subject. I wish most emphatically to indorse the plea in the article by Dr. Denison and in the editorial, for the bringing forward of *facts*, accurately stated by weight, measure or number so that they may be available for building up the science of tiology or of climatological therapeutics.

By this mail I send you a copy of the paper containing the mortuary, morbidity and meteorological statistics which I have mentioned.

Very respectfully, HENRY B. BAKER.
Lansing, Mich., April 19, 1889.

BOOK REVIEWS.

ELECTRICITY IN THE DISEASES OF WOMEN, with Special Reference to the Application of Strong Currents. By G. BETTON MASSEY, M.D., Physician to the Nervous Department of Howard Hospital; late Electro-Therapist to the Philadelphia Orthopædic Hospital and Infirmary for Nervous Diseases, etc. 8vo, pp. viii, 210. Philadelphia and London: 1889.

Taken as a whole the work done by Dr. Massey in his "Electricity in the Diseases of Women," is very satisfactory, and helps to fill a deeply-felt need of the practitioner, viz: a modern scientific work on electricity. The rapid development and recent scientific demonstrations of this subject have rendered former authorities almost absolute,

and as yet comparatively nothing has arisen to take their place.

While Dr. Massey's book covers but a limited portion of this vast subject, it still is in most respects, scientific and will prove of assistance to the practitioner who is desirous of employing electricity as a therapeutic agent.

But little space is occupied by the consideration of the physics of electricity proper, but the detailed experiments given in chapters III and IV are well conceived, and will do much toward clearing up this intricate subject to the minds of the uninitiated, and they should be thoroughly mastered by the practitioner who is ambitious to employ electricity intelligently. The remainder of the book is mainly a compilation from articles which have appeared from time to time in various medical journals during the past three years, and in most respects lacks originality save in the detail of cases.

Many of the more ordinary difficulties met with by the gynæcologist, such as menorrhagia, sub-involution, hyperplasia, pelvic induration, pelvic pain—including obstructive and nervous dysmenorrhœa—uterine stenosis, intermenstrual neuralgia, uterine displacements, amenorrhœa and hydrosalpinx, all are treated by the electrical means indicated, and with results which coincide with those reported by the majority of operators employing similar methods.

By far the greater portion of the book is devoted to a description of Apostoli's work. In chapter V. is considered the intra-uterine galvano-chemical cauterization (Apostoli's operation), as employed in the treatment of fibroid tumors and chronic metritis. The different steps of the operation are clearly described, and the electrodes and appliances illustrated. It is to be regretted in this connection that the author recognizes no form of intra-uterine flexible electrodes other than the stiff platinum sound, because in consequence a greater proportion of cases of filroid tumors with tortuous canals must submit to the more dangerous operation of galvano-puncture. This subject naturally forms the most important portion of the book, and is worthy the time devoted to it.

A chapter is devoted to the consideration of Extra-Uterine Pregnancy, electrically treated, and one to "Contra-indications and Limitation to the use of Strong Currents."

To the conservative practitioner this book offers a safe and effectual method of treatment for many difficulties which have in the past been a serious perplexity to him, while to the unscrupulous operator it should come as a grave reproach for the severe measures so often unnecessarily and unjustifiably employed, and it is to be hoped that through its influence some little may be accomplished toward righting this great wrong.

F. H. M.

MISCELLANY.

ILLINOIS STATE MEDICAL SOCIETY MEETING at Jacksonville, May 21, 1889. The following action was taken by the Society at the last meeting:

WHEREAS, It has been demonstrated by the experience of the past years that the present constitution, by-laws and rules of the Illinois State Medical Society have become totally inadequate to a proper and satisfactory carrying out of the aims and purposes for which said constitution, by-laws and rules were formulated; be it

Resolved, That a committee of five members be appointed, whose duty it shall be to secure from the Secretary of State a charter for this Society under the law providing for the incorporation of organizations, not for pecuniary profit.

Resolved, That this committee be empowered and is hereby authorized to draw up a new constitution and new by-laws for the future government of this Society.

Resolved, That said committee be required to mail every member of this Society a printed copy of the proposed constitution and by-laws at least sixty days prior to the next annual meeting, in 1889.

Resolved, That the consideration, amendment and adoption of the proposed constitution be the special order at its next meeting, immediately following, as nearly as possible, the delivery of the President's address.

It is specially important that there be a full attendance at the meeting this year, not only of the permanent members of the Society, but of representatives from all local societies of all parts of the State, as many important questions will come up affecting the future of the Society and its influence on the medical interests of the whole State.

Those expecting to present volunteer papers should notify the Committee of Arrangements as early as possible.

The Committee of Arrangements has secured reduction of railroad fare for members and delegates, on the certificate plan. Each delegate should get certificate from his local agent, of having paid full fare to the meeting.

The Constitution of the Society requires all members and delegates to register and present their credentials before participating in any business of the meeting. Registration will begin at 9 o'clock, A.M., on Tuesday, at the Hall. It is desired that as many as can do so, will register before the Society is called to order.

BARIUM sells for \$975 a pound, when it is sold at all, and calcium is worth \$1,800 a pound. Cerium is a shade higher—its cost is \$160 an ounce or \$1,920 a pound.

HEALTH IN MICHIGAN, APRIL, 1889.—For the month of April, 1889, compared with the preceding month the reports indicate that intermittent fever, rheumatism and remittent fever increased, and that influenza, pleuritis and pneumonia decreased in prevalence.

Compared with the preceding month, the temperature in the month of April, 1889, was higher, the relative humidity was less, the absolute humidity and the day and the night ozone were more.

Compared with the average for the month of April in the three years, 1886-88, measles and inflammation of kidney were less prevalent in April, 1889.

For the month of April, 1889, compared with the average of corresponding months in the three years 1886-88, the temperature, the absolute humidity, the relative humidity, the day ozone and the night ozone were about the same.

Including reports by regular observers and others, diphtheria was reported present in Michigan in the month of April, 1889, at 23 places, scarlet fever at 43 places, typhoid fever at 5 places, measles at 14 places, and small-pox at 1 place.

Reports from all sources show diphtheria reported at 6 places less, scarlet fever at 11 places more, typhoid fever at 3 places less, measles at 2 places more, and small-pox at 4 places less in the month of April, 1889, than in the preceding month.

LETTERS RECEIVED.

Dr. Perry H. Millard, St. Paul, Minn.; H. Weitz, Montpelier, O.; Dr. Osada Kotaro, Osaka, Japan; Dr. C. R. Reed, Middleport, O.; Pennsylvania Vaccine Co., Chambersburg, Pa.; Dauchy & Co., New York; Dr. C. H. Franklin, Union Springs, Ala.; Dr. R. W. Thrift, Lima, O.; Dr. E. G. Cochran, Jimulco, Mexico; Dr. O. C. Shirley, Pink Hill, Mo.; Dr. G. E. Brown, Las Animas, Col.; Dr. E. P. Becton, Sulphur Springs, Tex.; J. H. Fullbright, D. B. Harvey, W. Hall, D. H. Busk, Louisville, Ky.; D. E. Shane, Lawrence, Kan.; Dr. W. N. Yates, Cincinnati, Ark.; Dr. W. M. Moore, Ben Franklin, Tex.; Canton Surgical & Dental Chair Co., Canton, O.; Dr. J. J. Bland, Howma, La.; Dr. B. Erp-Brockhausen, Lansing, Ia.; Geo. F. Lasher, Philadelphia; H. G. Fairbanks, Halifax, N. S.; Eisner & Mendelson Co., Fairchild Bros. & Foster, New York; Ed. P. Stevens, Boston; Dr. Boyd Cornick, Mascoutah, Ill.; Lutz & Movius, New York; Z. Orto, Pine Pluff, Ark.; Dr. P. H. Brooke, Lima, O.; Dr. A. C. Ames, Hebron, Neb.; Dr. G. L. Magruder, Washington.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 4, 1889, to May 10, 1889.

Based on surgeon's certificate of his disability, leave of absence for one month, with permission to leave the limits of the Department, is granted Surgeon W. H. Forwood, Medical Dept., Ft. Snelling, Minn. Par. 1, S. O. 35, Hdqrs. Dept. of Dakota, St. Paul, Minn., April 8, 1889.

Asst. Surgeon Valery Havard, relieved from duty at Ft. A. Lincoln, Dak., and ordered to Ft. Buford, Dak.

Asst. Surgeon L. W. Crampton, relieved from Ft. Bridger, Wyo., and ordered to Ft. Lyon, Cal.

Asst. Surgeon W. G. Spencer, relieved from Ft. Yates, Dak., and ordered to Ft. Bridger, Wyo.

Asst. Surgeon R. L. Robertson, relieved from Ft. Buford, Dak., and ordered to Ft. A. Lincoln. Par. 29, S. O. 95, A. G. O., April 24, 1889.

Capt. William C. Borden, Asst. Surgeon U. S. Army, relieved from duty at Ft. Ringgold, Texas, and ordered to report to the commanding officer at San Antonio, Texas, for duty at that post. Par. 7, S. O. 100, A. G. O., May 1, 1889.

STATE MEDICAL ASSOCIATION MEETINGS IN 1889.

STATE.	SECRETARY'S NAME AND ADDRESS.	TIME AND PLACE.
Arkansas.	L. P. Gibson, Little Rock.	Pine Bluff, May 28.
Colorado.	H. W. McLaughlin, Denver.	Denver, June 18.
Connecticut.	N. E. Wordin, Bridgeport.	Hartford, May 22.
Dakota.	H. E. McNutt, Aberdeen.	Mitchell, June 20.
Delaware.	J. E. Ellegood, Laurel.	Dover, June 11.
Illinois.	D. W. Graham, Chicago.	Jacksonville, May 21.
Indiana.	E. S. Elder, Indianapolis.	Indianapolis, May 21.
Iowa.	S. S. Lytle, Iowa City.	Keokuk, May 15.
Maine.	C. D. Smith, Portland.	Portland, June 11.
Massachusetts.	F. W. Goss, Boston.	Boston, June 11.
Minnesota.	C. B. Vethelle, St. Paul.	Minneapolis, June 20.
Missouri.	J. C. Mulhall, St. Louis.	Springfield, May 21.
Nebraska.	A. S. v. Mansfeldt, Ashland.	Kearney, May 21.
New Hampshire.	G. P. Conn, Concord.	Concord, June 18.
New Jersey.	Wm. Pierson, Orange.	Spring Lake, June 4.
New York.	E. D. Ferguson, Troy.	New York, Sept. 25.
Ohio.	G. A. Collamore, Toledo.	Youngstown, May 22.
Oregon.	C. C. Strong, Portland.	Portland, June 11.
Pennsylvania.	W. B. Atkinson, Philadelphia.	Pittsburgh, June 4.
Rhode Island.	G. D. Hershey, Providence.	Providence, June 13.
Tennessee.	D. E. Nelson, Chattanooga.	Nashville, June 10.
Vermont.	D. C. Hawley, Burlington.	Brattleboro, June 27.
Virginia.	L. B. Edwards, Richmond.	Roanoke, Aug. or Sept.
West Virginia.	J. I. Fullerton, Charlestown.	W. Sulphur Springs.

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No. 20.

ORIGINAL ARTICLES.

EPICYSTIC SURGICAL FISTULÆ FOR CYSTOSCOPIC EXPLORATION; IN- TRA-VESICAL TREATMENT AND DRAINAGE.

Read before the State Medical Association of Alabama, April 11, 1889.

BY JOHN D. S. DAVIS, M. D.,
OF BIRMINGHAM, ALABAMA.

Epicystotomy has become an established and recently practiced procedure, and the dangers incident to opening the bladder through the abdominal wall is so slight that patients suffering from almost any vesical trouble are encouraged to have the bladder opened for diagnostic purposes and treatment at a time when the general health remains unimpaired; a practice which, a few years ago, would not have been resorted to by the most aggressive surgeon.

Catarrh of the bladder, irrespective of its cause, is always followed by a series of consecutive pathological changes which, independently of the partial or complete interruption of the passage of the urine, tend to destroy life. A dilatation of the bladder and ureters by retention of urine may give rise to such a degree of distention as to destroy life from suspension of important functions by mechanical pressure. During the stage of inflammation a paretic condition may occur, the blood-vessels in the vesical wall lose their support, and transudation and exudation take place into the paravascular tissue, which, combined with capillary stasis attending this stage of the disease, results in sloughing, infiltration, pyæmia, peritonitis and death. The damming up of the urine may, and does often, cause surgical-kidney, epididymitis and tetanus.

The treatment of chronic vesical catarrh resolves itself into a consideration of the causes producing the disease, many of which, the presence in excess of certain inorganic constituents of the urine, stone, stricture and hypertrophy, are capable of correction; whilst others—such as malignant tumors and certain conditions of the prostate—may only admit of a palliation of the symptoms to which they give rise and the removal of which must be the first object in treat-

ment. But when a paretic condition of the bladder exists provision must be made for the complete continuous emptying of the viscus; its thorough cleansing by frequent irrigation with hot sterilized water; and the promotion of a healthy tone in the mucous membrane and muscular structure of the bladder. The frequent introduction of catheters for drawing off residual urine and washing out the bladder has been productive of much harm, and, instead of giving relief, proved to be, by reason of their frequent introduction into the inflamed bladder to draw off the urine two or three times a day, a source of immediate and alarming symptoms. These facts are cogent reasons for adopting surgical means in all cases of intra-vesical troubles as soon as a diagnosis can be made, and often when it can not otherwise be made, for the complete emptying of the bladder, thorough cleansing, diagnosis, and intra-vesical treatment.

The epicystic surgical fistula is designed for drainage, intra-vesical treatment and cystoscopic exploration, and may be divided for consideration under the following heads:

I. Definition of epicystic surgical fistula.

II. Surgical resources in the formation of the epicystic surgical fistula.

1. Preparation for the operation.
2. Anæsthesia.
3. Position.
4. Incision and opening bladder.
5. Intra-vesical exploration and treatment.
6. Toilette and after-treatment.

III. Advantages of the epicystic surgical fistula.

1. Cystoscopic exploration.
2. Intra-vesical treatment.
3. Drainage.

I.—DEFINITION OF EPICYSTIC SURGICAL FISTULA.

Epicystic Surgical Fistula is the title here given to a supra-pubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula, which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration to provide a ready, convenient and comfortable means of emptying the

bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications.

It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity and repair as the pathological changes within the bladder subside.

II.—SURGICAL RESOURCES IN THE FORMATION OF THE EPICYSTIC SURGICAL FISTULA.

1. *Preparation for the Operation.*—The presence of two assistants, though not necessary, may be of valuable aid. A temperature of 80° or 85° Fah. should be maintained in the operating room from the beginning to the end of the operation. All hair is to be shaved from the pubis and all the details of antiseptic surgery are to be carried out so far as cleaning the pubis and abdomen. The bladder is emptied and thoroughly washed with warm water. When the water returns clean the bladder is slowly distended with warm sterilized water thrown into the bladder by means of a fountain syringe, with nozzle in urethra—a degree of pressure sufficient to distend the bladder to its utmost capacity—which can never be too great for the resistance of the bladder. It is better to fail in filling the bladder than to distend the bladder beyond the limit of competency. Indeed it is not necessary to fill the bladder to any degree of resistance. I have operated when the bladder was in an irritable condition and would not tolerate distention greater than the capacity of two ounces, and had no difficulty in avoiding the pre-vesical fold of peritonæum of finding the bladder. The water is secured in the bladder by tying the penis at the base with a rubber tube.

A colpeurynter is next to be well oiled and inserted into the rectum—the rectum having been previously emptied by enema—and filled with warm water. This distention brings the bladder into view above the pubis.

2. *Anæsthesia.*—My preference for chloroform is the result of my own personal experience with it. It is not free from objections as its depressing effect on the heart is well known. The operation usually occupies fifteen minutes; and, hence, its prolonged use would be unnecessary and uncalled for. The objection to ether is the suppression of the excretions and the frequency with which bronchitis is produced when administered to persons advanced in years. The best course to pursue, when the operation is prolonged, is to follow the use of chloroform by ether. The patient must be kept profoundly under the influence of the anæsthetic from the first incision until the superficial wound is closed.

3. *Position.*—The patient is placed on the back on an ordinary operating table with the legs extended as if in a position for perfect comfort and

rest. Many surgeons claim advantages in the position recommended by Trendelenburg. Eigenbrodt emphasizes the fact¹ that the elevation of the pelvis in Trendelenburg's position² helps the surgeon to avoid the pre-vesical peritoneal fold at the time of the incision of the bladder.

I have employed this posture for intra-vesical operation by means of the supra-pubic incision with no advantage over the ordinary flat-back position. With two openings in the bladder for a continuous stream of clear water I have no trouble in illuminating every part of the bladder with the electric surgical light and thus enabled to examine the entire intra-vesical wall. Undoubtedly the position recommended by Trendelenburg, possesses advantages which to the author more than myself, makes it highly ideal. As for myself I prefer and recommend the flat-back position.

4. *Incision and opening bladder.*—A perpendicular incision three or four inches long is made in the median line above the symphysis pubis. The recti muscles are separated to symphysis. If the pyramidalis are in the way, the fibres should be cut. The transversalis fascia is divided on a grooved director from symphysis to within one inch of upper margin of superficial wound. Instead of following Guyon's manœuvre, I catch the bladder with a tenaculum on a line with the symphysis, through the pre-vesical fat, and cut through with a bladder knife into the bladder with one smooth, clean incision, to prevent undue disturbance of the cellulo-adipose tissue between the bladder and pubis and avoid infiltration. I have never seen a case where it was necessary to put up the pre-vesical fat, and with it the peritoneal cul-de-sac. If the bladder is caught on a line with the symphysis and cut downwards, no fears need be had for the peritonæum. Cutting this pre-vesical fat prevents its after dropping down over the opening into the bladder and acting as a valve to prevent easy escape of urine and causing infiltration. And, too, such a procedure gives a smooth incision throughout, and it is almost impossible to have infiltration, even when no drainage tube is left in the bladder and the urine is left to flow out through the fistulous track and taken up by a layer of absorbent cotton. In making the incision into the bladder, no attention is to be paid to any vein or veins which are sometimes met with. If cut, they will stop bleeding when the bladder is dropped back and the rectal bag removed. The operation is usually bloodless in the sense of hemorrhage. I have operated without the patient losing more than one drachm of blood.

5. *Intra-vesical exploration and treatment.*—The finger is carried into the bladder and a

¹l. c., p. 72. Cf. Lang, Med. News, Dec. 4, 1886.

²In Trendelenburg's position the patient's legs are held over the shoulders of an assistant with the body resting on an incline table, much in the position which hogs are swung for spaying.

thorough search made for any tumors, villous growths or foreign bodies. The bladder is now emptied and the rubber around penis untied and the bladder well washed out with hot sterilized water. The bladder can now be examined with the cystoscope and surgeon's electric light. If tumors be found if practicable they should be removed; villous growths and any foreign body found should be removed. If nothing is found in the bladder, the surgical fistula, in the absence of malignancy, will be all that is required to relieve the cystitis.

6. *Toilette and after-treatment.*—The bladder is allowed to drop back into the pelvis and the superficial wound so closed by two sutures (including the skin and superficial fascia only), in the lower portion of the incision and one in the upper portion of the incision, as to leave a fistulous track of equal size from bladder to juncture of upper third and middle third of the superficial incision. A large rubber catheter is now to be introduced into the bladder through the opening and its distal extremity allowed to enter a urinal placed in the bed between the patient's thighs, or preferably at the patient's side. Professor F. Trendelenburg, director of the surgical clinic of the University of Bonn, proposed, for draining the bladder in supra-pubic lithotomy, the T-tube in latero-abdominal position and open wound treatment as the simplest, safest and best. He makes an antiseptic dressing of iodoform gauze around the T-tube. There can be no real necessity for a tube of any kind to be introduced into the bladder for the purpose of conveying the urine from the bladder to prevent infiltration, irritation of superficial fascia and soiling of dressings.

If the urine is kept acid, by the administration of citric acid or some other more palatable acid drink, no better antiseptic than the acid urine can be secured for the constant bath of the parts. It should be allowed to flow out through the wound and absorbed by a pad of absorbent cotton placed loosely over the wound, and removed as often as soiled by the outflowing urine. By this method of emptying the bladder, no possible small amount of urine can be impeded in its outward flow, which is the case around and outside of the tube, when catheter or tube is left in for any length of time—a source of no little annoyance at times. This little collected or retained urine, around the outside of the tube alone, I have seen produce a hard chill and elevation of temperature, and become for the time an immediate, alarming and aggravating source of trouble. I never have seen the skin made sore or chafed by the outflowing urine in epicystotomy, or from its after-escape through the surgical fistula.

The bladder should be washed out twice daily with hot sterilized water, by means of a fountain syringe, with its nozzle introduced into the

urethra, the water escaping through the epicystic fistula and guided into a bed-pan under the patient. The superficial stitches are taken out at the end of a week, and intermittent catheterization by the fistula is then resorted to for the sole purpose of training the fistula and prevent its rapid closure. It is not necessary to catheterize for the purpose solely of drawing off the urine. In one case I never drew the urine save for the purpose of analysis, but occasionally introduced a rubber bougie to prevent the closure of the fistula. The drainage by the fistula alone is admirable, and the fistula will be well formed in twenty or thirty days, competent to retain urine without dripping and to allow its escape in a good projecting stream at will. With no tearing of the tissues, and with a clean cut, the drainage is perfect and the dangers are *nil*.

III.—ADVANTAGES OF THE EPICYSTIC SURGICAL FISTULA.

1. *Cystoscopic Exploration.*—Nitze has by means of the cystoscope been enabled to diagnosticate tumors of the bladder in nine cases in which rectal palpation, the sound and other means had furnished negative results. One of the great difficulties in the cystoscopic exploration of the bladder is the presence of pus, mucus, and sometimes blood, which renders it exceedingly difficult to maintain a translucency of the fluid used to distend the bladder. By means of a simple fountain syringe a constant current of clear water may be kept within the bladder so essential to a complete observation of the trigonum Lieutaudii, the most interesting part of the viscus, the ureters; and to examine any affection of that viscus. The fistula may be made for temporary purposes of cystoscopy by the Peterson-Guyon-Perier operation; but I can see great advantages from a different operation, by Dr. Hunter McGuire, the object of which tends to eliminate as well as detect the trouble within the viscus; and, too, in the final construction of a permanent fistula, gives an easy after-method of exploration, and makes a better artificial method by reason of its length and extension upwards of two to three inches. Diagnostic purposes are met by the possibility of immediate detection of all local conditions, such as tumors, calculi, foreign bodies, neoplasms, the collection of fluids from the ureters, etc.

2. *Intra-vesical Treatment.*—Having by means of the epicystic exploration revealed the true nature of the intra-vesical trouble, the treatment resolves itself into the immediate necessities of the case. For instance, prostatectomy may be necessary, villous papilloma may be found and should be remedied; predunculated growths may be found which should be removed by the scissors or Paquelin's cautery, etc. In such cases, the opening in the bladder sufficient to introduce the

finger, should be enlarged downwards under the symphysis pubis, and the operation indicated should at once be performed. The object of the formation of the permanent surgical fistula is to meet the after indications in such operations, the details of which does not properly come within the province of this discussion. However, it is sufficient to state, what is reasonable and practicable, that a better means by which the intra-vesical wall can be reached and treated therapeutically has not yet been devised.

3. *Drainage.*—Permanent after-drainage in all intra-vesical operations cannot be necessary; but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved, and the urine becomes normal and passes per urethra unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contra-indicated, the epicystic surgical fistula is clearly indicated, and essentially necessary. It meets every possible indication for local treatment and gives the only controllable, ready and free drainage to viscus and kidneys. Urinary back pressure as the result of incompetency of the urethra from the various immovable prostatic troubles is often an immediate and remote cause of surgical-kidney, which can only be removed or relieved by supra-pubic drainage. In conditions of the bladder, of long standing cystitis, as in the case reported by me in the *Virginia Medical Monthly*,³ in which the urethra, though made competent by cutting, was not sufficient to keep the bladder emptied without catheterization—a procedure which kept up a constant vesical inflammation, which, combined with capillary stasis attending the inflammatory process resulted in paresis.

I now have the pleasure of introducing that case, Mr. T. A. Nixon, to you fifty-eight days after the operation. His condition to-day is sufficient guarantee for all I have said in favoring the formation of an epicystic surgical fistula for the relief of chronic vesical catarrh. The result in this case is more than I promised. He can retain his urine several hours and without dripping of urine or pain to bladder. Urine completely under control and bladder relieved of pain.

A CASE OF SENILE CHOREA; WITH REMARKS.

Read before the Philadelphia County Medical Society, March 13, 1889.

BY J. M. ANDERS, M.D.,
OF PHILADELPHIA.

By the majority of authorities, chorea in aged persons is believed to be rare. Not many years

ago, writers on the subject of chorea held that old age was of itself conclusive evidence that this disease did not exist in any given case. But since the collection and publication of twelve cases by Robert Saundby,¹ in 1884, the fact that senile chorea is a distinct affection can no longer be doubted. From ordinary chorea, which usually occurs during the period of approaching puberty, it differs widely as to etiology, and, probably, pathology as well. Believing that the extreme rarity of the occurrence of chorea in the aged fully justifies those practitioners of medicine who meet with it in publishing an account of their cases, I make no apology for placing on record the following case, which came under my notice at the Episcopal Hospital. The resident physician, Dr. G. B. Tullidge, has kindly furnished notes of the case, to which only slight additions have been made.

J. B., æt. 60 years, occupation cloth-cutter, was admitted to the medical ward of the Episcopal Hospital August 27, 1888. Patient, prior to present trouble, was in most excellent condition. He has had small-pox, three attacks of gonorrhœa, and acute articular rheumatism, all over thirty years ago. His habits have ever been temperate, although he has occasionally indulged in alcoholic drinks. His father, of sound body, was drowned. His father's brother died of old age at 90 years, and his mother, prior to death from cholera, in 1847, had always been in vigorous health.

He attributed the present attack to exposure while at Atlantic City in July, 1887. One hot night he slept with his head on the sill of an open window; the wind changed, the temperature fell, and he awoke cold, chilly, and suffering with pain and stiffness in the muscles of his neck. From that morning began the symptoms now complained of. The patient, an American by birth, has always lived in Philadelphia, is 5½ feet tall, and spare, though as well nourished as he has ever been. He comes complaining of his inability to keep at rest while awake, of oft-recurring attacks of fidgets. The attacks have so increased in severity and frequency as to compel cessation from work. There is a slightly increased prominence of the nape of the neck, though no actual deformity of the cervical portion of the spinal column is discernible; and his head is constantly held more rigidly erect than would be expected of a man of his age. During an attack the muscles of the neck, back and chest undergo irregular spasmodic contractions, causing shrugging of shoulders, twitching of arms, and well-marked jerking of head, which is thrown in the backward direction. The face also is thrown into movement, and exhibits characteristic choreic grimaces, with rolling of eyeballs. As the attack proceeds, the diaphragm becomes similarly affected, causing great difficulty in breathing. Inspirations are jerky and irregular.

³ *Virginia Medical Monthly*, April, 1889. *Alabama Medical and Surgical Age*, April, 1889. *New York Medical Journal*, April 13, 1889.

¹ *Lancet*, November 24, 1884, quoted by Sinkler.

The accompanying dyspnoea is always a most prominent and distressing symptom. During the attack, great pain is felt in the back of the head and neck. Each exacerbation lasts from one to four hours. During the intervals he feels quite well, and has only an occasional involuntary twitch. Insomnia is very great, and night follows night before he procures refreshing sleep. The intervals of quiet vary considerably in length; one, two, three or more days may intervene between these attacks. His appetite is fair, and his digestive functions are performed with apparent vigor and regularity. The action of the heart is constantly rapid, the pulse-rate ranging from 110 to 120 per minute, but there are no evidences of organic valvular disease detectable. Neither are there any characteristic subjective or objective symptoms present, pointing to any nervous trouble other than chorea. There is no dementia.

When admitted he was placed on a mixture of quinia, iron and strychnia; also was given 10 grs. of bromide of potassium every three hours. This treatment was continued for three weeks without benefit. The bromide of potassium has been mentioned by Charcot as being of service in this disease. Arsenic, which was administered both by the gastro-intestinal route and hypodermatically, proved valueless, as did also antifebrin given in doses of grs. iv every three hours. During the attacks, hypodermatic injections of morphia gave relief, causing sleep. The hydrobromate of hyoscin—a remedy recommended by Dr. S. Weir Mitchell, seemed to have a beneficial effect when first used, though it soon lost its virtue.

But, though treatment was apparently of no avail in this case, Charcot's view that chorea in the aged is incurable is not supported by all of the facts, since Dr. Russel relates a case that recovered at the expiration of three months, from the use of sulphate of zinc.

Dr. Sinkler has reported two cases, one of which recovered in four months. Still another case, first seen by Dr. Saundby when the patient was 50 years of age, suffering from left-sided chorea of an intermittent form, again fell under his observation when 66 years old, and at this time was almost cured.

Is senile chorea due to emotional causes? The emotional theory was advocated by Charcot in his famous lecture bearing the caption "Chorea in Old People."² But, as pointed out by Saundby, this view must, in the light of facts more recently observed, be abandoned. The two cases reported by Charcot (*loc. cit.*) were demented; also a case reported by E. J. Davis,³ and still another by M. Bacon, in which instance the patient had chronic mania.⁴ Thus, in a total of thirteen recorded cases, in all of which the mental condi-

tion was noted, four were demented—less than one-third.

Dr. Saundby saw three patients suffering from this disease, all of whom had advanced degeneration of the arteries. This observer believes "that it will be found that the pathology of this disease is some actual structural change, such as small hæmorrhages in the corpus striatum, and that it is not merely a functional derangement." In my own case there were present evidences of commencing atheroma. Of all the collectable cases, only four showed this condition—too small a proportion to base thereon positive conclusions.

The influence of sex may be shown to be considerable, since in eleven of the thirteen cases reported, the sex has been noted, and of these eight were males, three females. This would appear to be an exact reversal of the influence of sex in chorea occurring among children, for in the latter, according to the statistics of Dr. Wharton Sinkler,⁵ and others, the ratio is about three to one in favor of the girls.

Of the thirteen cases, only three were associated with heart disease, a fact showing but a feeble, if any, connection between senile chorea and cardiac affections. Not more than two of the total number gave a history of previous rheumatism. A final point to be made is that any theory of the pathology of chorea in the aged, based upon the meagre data at present attainable, must be purely speculative.

DR. WHARTON SINKLER: I have recently had the opportunity of seeing this patient of Dr. Anders, at the Philadelphia Hospital, where he is now under the care of Dr. Lloyd. The movements seem to be pretty much as they were when he was at the Episcopal Hospital. I think that cases of senile chorea are not quite so rare as one would suppose from the literature of the subject. I have frequently seen in old persons an irregular choreic movement of the extremities. I have now under my care an old gentleman, aged 80, in whom there are choreic movements of the left arm and leg. On inquiring in reference to the duration of this movement, I learned that it had not been before observed either by the patient or his relatives. In this case there was a transient attack of right hemiplegia a couple of years ago. In senile chorea I think that there must be an organic lesion, due probably either to small hæmorrhages or embolism in the corpus striatum.

DR. WILLIAM OSLER: I think that senile chorea must be entirely separated from ordinary juvenile chorea. Almost all cases of senile chorea are probably associated with organic changes, whereas the evidence is uniformly in favor of the view that the chorea of children is very largely a functional disorder.

DR. ANDERS: I have in my paper pointed out

² Medical Times and Gazette, 1873, vol. i, p. 245.

³ "Case of Chorea in the Aged," Medical Times and Gazette, vol. ii, p. 447.

⁴ Quoted by Saundby.

⁵ Pepper's System of Medicine, vol. v, p. 441.

that the chorea of the aged differs widely from chorea of childhood. I notice the influence of sex, and the fact that in children the results of treatment are, as a rule, quite satisfactory, while in the aged, with the exception of one or two instances, treatment has had but little effect. This would seem to indicate that there was some pathological lesion present in the chorea of aged persons to explain the difference in the results of treatment.

HYDROPHOBIA.

Read in the Section on Anatomy, Physiology and Pathology, of the Medical and Chirurgical Faculty of Medicine.

BY WILLIAM H. WELCH, M.D.,
CHAIRMAN OF THE SECTION.

[Reported by DR. WILLIAM B. CANFIELD]

Although since Pasteur's first publications on this subject, it has received the widest ventilation in medical journals, no apology is needed for a fresh critical review, so rapid are the additions to our knowledge and to such an extent does the estimation of the value of much of Pasteur's work depend upon results which can be determined only by the lapse of time. Although Pasteur's preventive inoculations against hydrophobia constitute the central point about which controversy has waged, it is not to be forgotten that Pasteur's discoveries and the investigations aroused by them have shed much light in many directions upon one of the most mysterious and fatal diseases. We are better able now than ever to consider the efficacy of the Pasteurian inoculations against hydrophobia.

He reported the results of the post-mortem examinations he had made in three cases of hydrophobia in human beings. In one case he had made serial sections of the medulla oblongata and pons from the 2nd cervical nerve upwards. The lesions in this neighborhood were small hæmorrhages, accumulations of leucocytes in large numbers in the peri-vascular lymph spaces and in scattered foci in the neroglic and thrombi, composed of blood-plates and of leucocytes in small blood-vessels. These lesions were for the most part microscopical and their extent and distribution could be determined only by the examination of a large number of sections from different parts. The lesions were especially well marked in and near the nuclei of origin of the spinal accessory, pneumogastric and glosso-pharyngeal nerves, and in the motor nucleus of the trigeminus. Cases have been reported in which even more extensive lesions than those have been found, their severity depending apparently in large measure upon the duration of the disease. While it cannot be claimed that these lesions are peculiar to hydrophobia, or by themselves suffice for its anatomical diagnosis, it is incorrect to suppose that hydrophobia is a disease without demonstra-

ble anatomical lesions which bear a manifest relation to the symptoms of the affection.

Far more important than this the addition to our knowledge of the pathological anatomy of rabies following Pasteur's discoveries, are the contributions to a better comprehension of the causation of the disease. Before Pasteur's publications on hydrophobia, dating from 1881, about all that we knew of the virus of rabies was that it is contained in the salivary glands and their secretions and that infection often follows the bites of rabid animals. We now possess valuable information concerning the properties of the rabid virus, its distribution in the infected body, the manner of its transmission, the singular differences in its action, according to the seat of its inoculation, and the means for producing immunity against its invasion.

Although there is no reason to doubt that the infectious agent in the virus of rabies is a micro-organism, no actual demonstration of this organism has yet been made. From material obtained from a series of rabbits which were inoculated at the Pathological Laboratory of the Johns Hopkins University with hydrophobic virus obtained from the medulla oblongata of a man dead of the disease, and which served to confirm the statements of Pasteur as to the behavior of these animals when inoculated with the rabid virus, efforts were made to demonstrate, both in the tissue and by means of cultures, some specific micro-organism, but with entirely negative result. While we are not acquainted with the specific organism causing hydrophobia, we know many of its properties.

The virus of rabies is destroyed by comparatively low temperature, exposure for one hour to a temperature of 50° C. [122° F.] sufficing for this purpose. It is killed in a short time by drying, certainly within four days when exposed in thin layers capable of rapid desiccation. It is destroyed by exposure to the direct rays of the sun, even when surrounded by conditions preventing much elevation of temperature. According to Babes, the virus is more resistant to the action of corrosive sublimate and carbolic acid than most micro-organisms, but it usually loses its infectious properties after exposure for three hours to the action of 0.1 per cent. sublimate, or of 1 per cent. carbolic solution. Galtier has pointed out the important fact that the virus of rabies may be demonstrated after forty-four days, and perhaps longer, in the cadavers of buried animals. A practical means of preserving the virus is to place the brain or cord of the infected animal in pure glycerine, which may be diluted with water, and should be occasionally changed.

It has been ascertained that the occurrence of infection with rabies depends largely upon the part of the body and the character of the tissues into which the virus is inoculated. The disease

always develops after inoculation of the virus into the brain or upon its surface, or into the eye, the period of inoculation being shorter and more definite after subdural inoculations. Inoculations into the substance of nerve trunks appears to be equally successful in rabbits, but somewhat less certain in dogs, although even with the latter inoculation into the pneumogastric nerves does not fail. Intravenous injection does not produce the disease in the ruminants unless very large quantities are used, and may fail in rabbits and especially in dogs. Especial importance attaches to the behavior of subcutaneous injections of the virus of rabies. Dogs often resist infection from injection of considerable quantities of even the most intense virus into the subcutaneous tissue. Ferran's super-intensive method of producing immunity in human beings, is to inject at once the strong virus into the subcutaneous tissue, and this has been done in over 200 cases without injury. If the injection be made into muscular tissue infection is more likely to follow. DiVestea and Lagari have shown that while simple subcutaneous injections are often unsuccessful in producing rabies, the application of the virus to the divided ends of nerve filaments in a cutaneous wound is generally efficacious in causing the disease. Although deep and severe bites of rabid animals are the most dangerous, hydrophobia may result simply from a mad dog licking a scratch.

One of the most important discoveries of Pasteur is the demonstration of the fact that in animals or human beings which have died of hydrophobia the virus is contained most abundantly in the central nervous system, and especially in the medulla oblongata. It is found constantly also in the salivary and lachrymal glands, sometimes in the pancreas, but it is usually absent from the blood, kidneys, spleen and liver. Only exceptionally is it present in the mammary glands and the neck. It is very rarely transmitted to the fœtus through the placenta.

There has been considerable discussion as to the manner in which the virus is conveyed from the seat of inoculation to the central nervous system. The evidence points to the transmission of the virus along the nerve, in fact it is claimed by Helman and others that the virus is capable of multiplication in nervous substance. Roux and others have found the virus present in the nerves of a bitten extremity when it has been absent in corresponding nerves of the opposite side. By killing animals at the proper period, it has been ascertained that after inoculation in the tail or posterior extremities the virus makes its appearance in the posterior part of the spinal cord sooner than in the medulla oblongata, while the reverse holds true when the inoculation is made in the head or posterior part of the body. These observations, taken together with the inefficiency of intravenous injections, and the absence of the

virus from the blood, lead to the conclusion that the virus passes along the nerve trunks, although we have no information as to how this is accomplished.

It is a significant fact, which should be remembered in judging the results of Pasteur's treatment, that there is a period of so-called latent development of the virus in the central nervous system. In rabbits inoculated with the strongest virus (*virus fixe*), the period of incubation is six days, but as early as the fourth day the virus has been found in the medulla oblongata. Doubtless, therefore, in human beings, the virus is present for a longer or shorter period in the central nervous system before any characteristic symptoms of rabies appear. Careful observation has shown that in rabbits this period is not really a latent one, but it is accompanied by elevation of temperature, increased frequency of respiration, slowing of the pulse-rate and loss of weight.

Dr. Welch said that there can no longer be any question that it is possible to render animals immune against rabies both before and after inoculations which would otherwise cause the disease. The independent and careful experiments of Ernst in this country are free from all partisan bias and have amply confirmed the statements of Pasteur on this point. The methods employed by Pasteur for protective inoculation against hydrophobia have been so often and so fully described in medical and other journals that Dr. Welch did not consider it necessary to repeat the description on this occasion. These inoculations are most effective in preventing the disease when undertaken soon after the reception of the poison with a large quantity of virus, and with the speedy employment of material containing the strongest virus (*virus fixe*). Animals may be rendered immune by single injections into the blood or the subcutaneous tissue of a large quantity of strong virus, whereas dogs which are bitten by mad dogs and which do not develop the disease, as often happens, are not left immune. Dogs which have once been rendered immune against rabies may preserve this immunity for at least two years, and doubtless for a longer period.

Pasteur attributes the immunity to the action of some substance which he calls "*matière vaccinale*," contained in the virulent material but not identical with the microorganism causing rabies. That immunity against infectious disease may be secured by the injection of chemical substances produced by the growth of specific bacteria, was first demonstrated by Salmon and Smith in the case of hog cholera, and has been subsequently demonstrated by Roux and Chamberland for malignant œdema and by Wooldridge for anthrax. It has not yet been found possible to prove conclusively the correctness of Pasteur's supposition in the case of rabies, but there is much which speaks in its favor.

Encouraged by the results of his experiments upon animals, Pasteur, in July, 1885, first applied to a human being his method of preventing hydrophobia by successive inoculations of the virus contained in the rabbit's medulla subjected to drying for different periods. During the years 1886, 1887 and the first half of 1888 there have been treated under Pasteur's supervision, either by the simple or by the intensive method of inoculation, 5,374 persons who have been bitten by animals either proven or suspected to be rabid. The mortality from hydrophobia, including even the cases which developed within a day after the cessation of treatment, was, in 1886, 1.34 per cent.; in 1887, 1.12 per cent.; in 1888, .77 per cent. If the fatal cases which developed within a fortnight after the end of treatment, and in which there is reason to believe that the inception of treatment was too late, be excluded, the mortality for 1886 falls to 0.93 per cent.; for 1887 to 0.67 per cent.; and for 1888 to 0.55 per cent.

Dr. Welch considered the various objections which have been made to Pasteur's method and to the value of his statistics. Some of these objections are of a purely hypothetical nature. Much force has been attached to von Frisch's experiments, which seemed to some to invalidate the scientific basis of Pasteur's method of treatment. Von Frisch claimed that it is impossible to render animals immune after the reception of the virus of rabies in a manner certain to produce the disease. In opposition to von Frisch it has been demonstrated by Pasteur and others that, in a large proportion of cases, the development of rabies may be prevented in dogs which have been inoculated beneath the dura mater with the strongest virus. The treatment, however, must not be deferred under these circumstances later than the second day, and must be by the intensive vaccinations. Bardach succeeded in this way in saving 60 per cent. of the dogs inoculated beneath the dura mater. This test is evidently the most severe one to which Pasteur's preventive treatment can be subjected, one far more severe than is required to meet the ordinary channels of infection with rabies. It must be admitted, therefore, that Pasteur's treatment rests upon a satisfactory experimental basis.

The criticisms raised against drawing favorable conclusions from the large mass of statistics published by Pasteur have been many, but the most important are that we are ignorant of the mortality following the bites of rabid animals, and that there are included in Pasteur's statistics an indeterminate number of persons bitten by animals not rabid. As regards the first point, there are various careful collections of statistics which show an average mortality of about 15 per cent. (Labbanc, Dujardin-Beaumetz, Horsley). All admit that bites by rabid animals on the head and face furnish a much higher mortality than this; it

being given as 88 per cent. by Brouardel. To meet the second criticism, Pasteur's statistics, which are published monthly, are arranged in tables which embrace: *a*, persons bitten by animals proven experimentally to be rabid; *b*, cases in which the existence of rabies is certified by a veterinarian; *c*, cases in which there is reason to suspect rabies in the animal. Pasteur's statistics for class A, that is for persons bitten by animals proven experimentally to be rabid, for the years 1886, 1887 and the first half of 1888, yield a mortality from rabies of 1.36 per cent.; or, if those who died within a fortnight after treatment be excluded, of 1.09 per cent.

Dr. Welch collected from Pasteur's reports for the first half of 1888 those bitten on the head and face by animals proven experimentally to be rabid. There were 59 cases, with 4 deaths from rabies during treatment and 2 following treatment. Of the latter 1 was seized three days after the cessation of treatment, and it is reasonable to suppose that in this case the treatment was begun too late. If this case and those dying during treatment be excluded, there remain 54 cases with 1 death, a mortality of 1.85 per cent.

In view of the universally conceded high death rate following bites on the head and face by rabid animals, this result leaves no room for doubt as to the efficiency of Pasteur's treatment, although it is not unfailing.

It is a sufficient answer to the assertion that has been made that Pasteur's intensive inoculations are dangerous in that they may actually produce the disease, that the mortality from rabies is strikingly smaller after the application of the intensive method than after the simple treatment.

SUCCESSFUL CASE OF NEPHRORRAPHY FOR FLOATING KIDNEY.

Read before the Philadelphia County Medical Society, March 27, 1889

BY W. W. KEEN, M.D.,

PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.

Miss E. J. F., of Sunbury, Pa., æt. 35, height four feet eleven inches, weight ninety-two pounds, was sent to the Woman's Hospital on October 4, 1888, by Dr. Mary A. McCay, with a diagnosis of floating kidney. For the following notes I am indebted to Dr. Chapin and Dr. McKee, resident physicians. The patient was delicate as a child; menstruation began at 15, and was always painful and irregular. At 18 years of age she was thrown from a wagon, falling forward with considerable force on her chest and abdomen. Shortly after the fall she suffered with severe pain in the right side and a great deal of distress across the back. Menstruation ceased for six months, and was followed by dropsy and severe illness. There was frequent inclination to vomit,

and a great deal of palpitation of the heart. In spite of constant medical attention, she dragged out a miserable existence. About seven years after the fall she noticed a movable tumor in the abdomen, which Dr. McCay believed to be a floating kidney.

Present condition.—Appetite and sleep poor; urine 1020, slightly alkaline, twenty-nine ounces in twenty-four hours, no albumen, no sugar. Heart and lungs normal; uterus retroflexed. In the right abdomen was a tumor, about the size of the kidney, which could be freely and easily pushed two or three inches to the left of the middle line back into the right lumbar region, or down into the right iliac fossa. Neither the hilum nor the blood-vessels could be distinctly made out. Percussion over the position of the right kidney showed a tympanitic note, the left renal dulness being distinct and normal. The tumor was evidently not connected with the uterus, ovary, or liver.

Operation, October 26, 1888.—Ether was administered. An oblique incision was made at the outer border of the quadratus lumborum four inches long. As soon as the abdominal fat was discovered, search was made for the kidney. The colon was first found, but the kidney was absent from its normal position. Strong pressure being made on the abdominal tumor, it was partly pushed back into position, but could even then only be touched by the finger tip. On separating the borders of the incision by retractors, it was seen to be the kidney, bare of all fat. In order to replace it entirely, it had to be seized by a volsella. Seven carbolized silk sutures were next introduced by a Hagedorn needle, four posteriorly and three anteriorly, through the capsule and substance of the kidney, by which it was attached to the muscles and aponeurosis of the abdominal wall. Seven deep sutures of chromicized catgut were then introduced through the entire muscular wall of the loin, but they were not tied, as I intended that the wound should remain open for a few days, if not permanently, in order to produce cicatricial tissue between the kidney and the muscular wall. No provision for drainage was necessary of course. The wound was covered with an ample bichloride gauze dressing. Her recovery was entirely uneventful. Her highest temperature was 100.9°. The urine was entirely free from any blood, though the bladder was irritable, and the catheter had to be used for several days. The wound was so completely filled up within the first forty-eight hours, that I removed the stitches that had been passed through the muscular wall. I kept her flat on her back for four weeks, when she was allowed to rise for a short time. There was considerable, apparently rheumatic, pain in the small of the back for three or four weeks after the operation, which disappeared and again reappeared,

and which seemed to be benefited by salol. Seven weeks after the operation there was a moderate amount of albumin in the urine, which disappeared after the use of Basham's mixture for three weeks. Soon after she got out of bed, I tried the effect of a pad to support the kidney in front, but its use caused so much discomfort that I abandoned it, trusting wholly to the silk sutures and cicatricial tissue to hold the kidney in place. The tumor formerly discovered in the abdomen was entirely gone, and the normal renal dulness reestablished, though a little lower down. She went home on the 5th of January, 1889. I heard from her to-day, March 16, 1889, and she says: "My back is still weak, but the pain is fast disappearing. The kidney is still firmly anchored, and I am feeling better generally. Words cannot express my gratitude to you for what you have done for me."

REMARKS. *First, the cause.*—A lax abdomen following frequent pregnancies has been supposed to be the origin of floating kidney, as it is of floating liver. In the case here narrated, the patient was unmarried, and the abdominal wall was not at all lax. Again, the absorption of the perinephritic fat has also been supposed to be a cause, but in this case as soon as the abdominal wall was penetrated, the perinephritic fat was at once encountered. But it was a noticeable fact that the kidney itself was entirely free from any fat. In other words, the fatty bed in which the kidney should lie was in its proper place, but the kidney was displaced and there was no fat on the kidney itself. It seems reasonable to conclude that the dislocation of the kidney was due to the fall at the age of 18, though the abdominal tumor was not discovered till seven years later. Landau, who has written the best monograph both upon floating kidney and floating liver, states that of 314 cases of floating kidney, 273 were in women as against 41 in men. In 178 cases, it existed on the right side in 151, on the left in 13, and in 14 on both sides. The present case being in a woman, and upon the right side, emphasizes still further his statistics.

Secondly, the symptoms.—Digestive disturbances, especially constipation and very fetid breath, were not marked, though they were present to a moderate degree. The chief trouble was pain and constant discomfort, which was not only physical, but mental, the very existence of the tumor being a source of constant worry. The tumor itself was not especially tender to the touch, but it created a constant aching pain. Neither the hilum nor the pulsating renal artery could be distinctly made out, but the character of the tumor and the altered renal dulness made the diagnosis quite clear.

Thirdly, the treatment.—Recumbency alone has been advised by Landau, but this seems to me altogether too expectant. Only the most sanguine

could believe that by this treatment, if such it can be called, a kidney would resume its normal position and quietly continue there sufficiently long for the adhesions to be reestablished with any prospect of permanency.

I did not try any treatment by pad or bandage, as the patient was from a distance and could not remain the long time necessary to decide whether such palliative treatment would answer. On the other hand, extirpation of the organ was equally foreign from my thoughts. In my opinion, this should only be done after failure of an attempt at fixation. The danger to life of a floating kidney is absolutely *nil*. It is, therefore, only to remedy the discomfort that exists that we operate. Hence, I do not think extirpation at all justifiable unless we first attempt to fix it *in situ*, and having so failed, it is only justifiable even then in case the discomfort is very great. Dr. Maurice H. Richardson (*Boston Medical and Surgical Journal*, June 14, 1888), who has published an excellent paper with a full bibliography, quotes from Brodeur the following figures: Of 235 nephrectomies, 125 were done by lumbar incision, with 47 deaths (37.6 per cent.), 110 by abdominal incision, with 55 deaths (50 per cent.). As against this large mortality from nephrectomy, however, Gross has collected 17 cases of nephrorraphy, with only one death, a mortality of only 6 per cent. It should be added also, that in the fatal case (Ceccherelli, *Centralbl. für Chir.*, 1884, 44, 743) the surgeon passed the stitches around the twelfth rib, a procedure which is absolutely needless as well as dangerous.

Hahn (*Centralbl. f. Chir.*, 1881, p. 449) first proposed fixation for a floating kidney, by operative procedure, and practically perfected the operation. The operation is simple. The patient being laid upon the side, an oblique incision is made at the outer border of the quadratus lumborum. The edge of this muscle being recognized, the perinephritic fat is found immediately in front of it, at its outer border. This fat having been cut or torn through, the kidney may be seen at once, but, if it is very movable, it may be so far displaced as not to be seen, or, as in the present case, may be even felt with difficulty by the tip of the finger, even when an assistant pressed it firmly back through the abdominal wall.

Mr. H. Morris (*Surgical Diseases of the Kidney*, p. 45) makes a distinction between a kidney which has no mesonephron, but moves about freely behind the peritoneum, this being called "movable kidney," and a "floating kidney" which does possess a mesonephron, and therefore floats freely in the peritoneal cavity. In cases, therefore, of a strictly floating kidney, it would be necessary to open the peritoneal cavity before it could be fixed in the loin. This distinction is confirmed by the four cases of dissection to which

Morris refers. Comparing them with the present one, the range of movement to the left of the umbilicus and into the right iliac fossa was so great in this case, that it would seem proper to call it a "floating kidney," yet, at the operation, no renal mesentery or mesonephron was found. The probable mode of its production would also militate against the existence of any mesonephron. The kidney was far away from its normal position, but when pushed back into its proper place no layer of the peritoneum could be found that by any possibility could be called a mesonephron, and the peritoneum was certainly not opened.

In spite of the fact that Paoli (*Centralbl. f. Chir.*, 1885, 51, 910) cut through the twelfth rib in order to obtain room, it would seem to be rarely necessary to do so. When found and pressed back, the kidney should be fixed as nearly as possible in its normal position. Usually it will be impossible to replace it as high as it was at first, but lowering the site by two inches is not uncommon and seems to be of no importance.

The sutures that have been employed (either of silk or of catgut, disinfected, of course) may be passed (1) through the capsule of the kidney, or (2) through the parenchyma and capsule both, and may either be (3) left permanently or (4) removed. In this case I employed antiseptic silk, which I consider decidedly the best, and passed the stitches not only through the capsule, but through the parenchyma of the organ itself, three on the anterior surface and four on the posterior, stitching the kidney to the muscles, and what I consider more important, to the aponeurosis, which exists on each side of the incision. Finally, these stitches were not removed, but were left *in situ*. I believe with Svernnson (*Centralbl. f. Chir.*, 1886, 824), that many failures have been due to employing absorbable catgut, to the avoidance of passing the stitches through the substance of the kidney, and to removal of the stitches, which in all cases I think should be left in, whatever the material employed. Svernnson inserted as many as fourteen silk stitches, which were left in place and caused no trouble. The wound is best left to heal by granulation. I introduced a number of stitches to close the abdominal wall if necessary, but in twenty-four hours it was so filled up that it was evidently a needless precaution. The larger amount of cicatricial tissue that is produced by leaving the wound to heal by granulation probably fixes the kidney more firmly.

Another very important point is, that the patient should lie flat on the back for at least a month after the operation, in order that the cicatricial tissue binding it in place may become thoroughly developed and firmly established. Even then, I would advise some support for the kidney in front by a pad or bandage, provided

the patient bears it well. In this case I soon abandoned it, as it caused too much discomfort. It is to be noticed that though the stitches were passed through the kidney substance, the patient had no hæmaturia (this was carefully watched for) and that no inflammation or reaction seemed to follow. But seven weeks after the operation considerable pain developed in the region of the kidney together with some albuminuria. This disappeared, however, after the use of Basham's mixture. The pain seemed to be rheumatic, and was soon relieved by the administration of salol.

A CASE OF NEPHROTOMY.

Read before the Philadelphia County Medical Society, March 27, 1889.

BY L. W. STEINBACH, M.D.,
OF PHILADELPHIA.

On July 17, 1888, Mrs. Anna H., 44 years old, from New Jersey, was sent by her attending physician to my department at the Polyclinic with a statement that she had been under his care for about a month, that she presented symptoms of hepatic and gastric disorders which brought about anæmia, nervousness and irritability of the heart. She complained of indigestion, frequent vomiting of food or of mucus, attacks of palpitation of the heart, and loss of flesh. One week ago his attention was directed to an induration in the right hypochondriac region, and, deeming it of serious import, he referred the patient to our clinic.

From her own statements and those of accompanying friends we gathered, in addition to the above, the following history :

Mrs. H. was formerly a hard working country woman, who bore six healthy children, but had had no miscarriages. She suffered in several of her confinements with puerperal mania, but considered herself in good health until eleven years ago, when, she thought, she became dyspeptic. Five years ago she noticed a lump in her abdomen, of which she made no mention to anyone until one month ago, up to which time she was able to attend to her household duties. She complains of headaches and constipation, and has not noticed any sediment in or discoloration of the urine, nor could she recall having suffered with pain that would indicate the passage of a biliary or renal calculus. Her pulse, respiration and temperature are normal, she looks anæmic, the complexion is muddy, her conversation and behavior indicate the existence of some mental weakness, the body is emaciated. Inspection shows a prominence in the right lumbar region, whilst percussion and palpitation reveal the presence of a tumor extending from the lower border of the ribs vertically for about seven inches, and, laterally, occupying the centre of the lumbar region to the extent of three inches. The percus-

sion dulness is continuous with that of the right lobe of the liver. The tumor is freely moveable below, and felt through the abdominal walls imparts the sensation of a bag filled with small pebbles. Believing that the case before me was one of a gall-bladder filled with calculi, and fearing lest manipulation would cause rupture of the cyst, I desisted from further palpation and directed my inquiries toward finding other symptoms of biliary obstruction. I drew off the urine with a catheter and submitted it to a chemical analysis, which showed the absence of albumen and the presence of some bile-pigment. No particulars of the nature of the stools could be obtained. In a letter directed to her physician, I gave it as my opinion that the patient was suffering from the effects of an enormously distended gall-bladder filled with calculi, and recommended a cholecystotomy.

One week later, she returned with the consent of her physician ready to undergo the proposed operation. After a preparatory treatment by baths, a laxative and rest in bed for two days, and after a consultation with my assistants and the physicians composing my class, in which the existing symptoms, and especially the absence of pronounced jaundice, were separately and carefully considered, I believe there was no more reserve in the minds of these gentlemen than in my own that the former diagnosis was the correct one. Dr. Keen also hastily examined the patient, concurred in the diagnosis and lent his kind assistance in the operation.

On July 26, the patient being anæsthetized with ether, an incision three inches in length was made in the right linea semilunaris, over the most prominent portion of the tumor, beginning at the border of the ribs and dividing the abdominal muscles and peritoneum ; the apex of the tumor was reached without encountering any of the abdominal viscera. The calculi could now necessarily be felt more distinctly than before the division of the abdominal wall, and, meeting with difficulty to place the tumor on the trough-shaped apparatus devised by Dr. Keen, it was decided to pick up a fold of the cyst between two pairs of hæmostatic forceps and make an incision between the forceps, so that the calculi might be removed without permitting the escape of bile or mucus into the peritoneal cavity ; this was accordingly done, and a few pieces of calculus removed, which, however, did not correspond in shape, color and general appearance to calculi of biliary origin, especially when the forceps grasped a stone evidently of large size and immovably fixed.

The idea of impacted gallstones was dispelled by the appearance of these calculi, and the thought that flashed upon the mind of every one was, that the tumor was a kidney.

The fear of rupturing the normal gall-bladder

having suddenly vanished, the lips of the abdominal incision were drawn apart more freely, which brought to view the margin of the right lobe of the liver and a normal gall-bladder in its normal position.

Further examination showed the tumor to be the right kidney distended by several calculi of different shapes and sizes. The organ itself was twisted by being turned upon its vertical axis from behind forward and to the left, and upon its horizontal axis from above downward and from behind forward, so that the dorsal surface and the upper end presented at the anterior abdominal wall.

It was now at once decided to remove the kidney, a superficial examination indicating the existence of a kidney on the left side. The pedicle of the tumor, consisting of ureter, artery and vein, was ligated *en masse* with a silk cord, the kidney cut off, the abdominal incision closed with sutures and dressed. The patient was put to bed, and after half an hour came out from under the influence of the anæsthetic and inquired of the nurse about the particulars of the operation. She gave no evidence of pain or suffering, and assumed her usual air of indifference to her surroundings which, according to the statement of her niece, was her peculiarity. Three hours after the operation the bladder was catheterized, but no urine obtained. Catheterization was repeated at intervals of six hours during the two succeeding days with a like result. The temperature at 8 o'clock p. m., six hours after the operation, was 101° F., falling to 99° on the following morning, gradually rising to 103° towards evening, and falling in the same manner to 100° on the morning of July 28. She slept for a few hours during the night after the operation, and after a small dose of morphia; took moderate amounts of nourishment and some stimulants. About noon of the third day began to complain of soreness all over the body, became irritable and restless, but continued to take milk and whisky. She passed no urine up to the time of her death, which occurred at 6:20 p. m., fifty-four hours after the operation, caused by suppression of urine. A post-mortem examination was not held.

The removed kidney with the calculi weighed fourteen and a half ounces, and is among the pathological specimens which Dr. Keen presents this evening.

In submitting the case for discussion and criticism of the society, without explanations in justification of the course of which I have pursued, I am adding one to the great number of recorded and unrecorded cases of movable kidney, the removal of which has been attempted or accomplished in the belief that the tumor was ovarian, uterine, splenic, or belonging to any of the abdominal or pelvic organs.

A CASE OF LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY.

*A Paper read at the Allegheny County Medical Society,
March 16, 1889.*

BY N. O. WERDER, M.D.,
OF PITTSBURGH, PA.

At the November meeting of this Society I reported a case of extra-uterine pregnancy in which I had performed abdominal section with a successful result. To-day I present the specimen of my second case of tubal pregnancy, removed by laparotomy, on February 14th, of this year.

The history of this case is, briefly, as follows:

Mrs. M., 27 years of age, married, two children, the youngest 16 months old, has been suffering with periodical attacks of severe abdominal pains for almost a year, for which she several times required medical treatment. During the five or six weeks preceding the operation these attacks increased in frequency and severity, making her unfit to do her ordinary household duties. Walking almost always produced a great deal of suffering. On January 26th, of this year, I was consulted for one of these attacks of pain, which was referred to the pelvic region, principally the left side. Making a vaginal examination, I found the uterus enlarged to the size almost of a two months' pregnancy, and to the left of this, in the region of the left tube, a soft, extremely tender mass, which was slightly movable. A careful bimanual examination could not be made on account of the very great sensitiveness of these parts. She had menstruated regularly every four weeks during the last eight or nine months, and was at this time still nursing her baby. At the two subsequent examinations I found no change in her condition, except, perhaps, that this tumor was slightly larger than before. The diagnosis was not quite clear, but I was inclined to the opinion that it was either a hydrosalpinx, or a pyosalpinx, more probably the latter. As her suffering at times had almost become unbearable, I advised laparotomy, to which she readily consented, but the operation was deferred until after her next menstrual period, which was now very close at hand. Menses lasted five days, and presented nothing unusual. In the afternoon of the 13th of February, the day preceding the operation, she came to my office in a carriage, from her home, for the purpose of going to Mercy Hospital. On examination I found her condition unchanged; the mass, however, seemed now decidedly larger. The riding on the rough country road from her home did not seem to have caused her as much suffering as expected, and she was cheerful and feeling better than for several days previously. But on her way to the hospital the pains returned in unusual severity, and she arrived there faint and nearly collapsed. Several hypodermic injections of morphia made

her more comfortable, but she continued very sick and sore all night. On my morning visit, before the operation, she looked very pale, and was very feeble, still suffering considerable pain. Vaginal examination was not made.

On opening the peritoneal cavity dark blood escaped from the wound, and the abdomen was found containing a considerable quantity of blood, liquid and coagulated. In reaching down for the sac, on the left of the uterus, I felt a small rent in it, probably $\frac{1}{2}$ inch long, which, however, in trying to bring it to the surface, was enlarged, so that all its contents escaped into the abdominal cavity. The bleeding was now very free, the blood being bright red, and easily distinguishable from the old dark blood already contained in the abdomen. The sac was now tied off, and the clots contained within the pelvic cavity turned out. After washing out the abdomen with hot distilled water it was closed, leaving, however, a glass drainage tube. Blood continued to discharge from this tube for three days, when it was removed.

The patient rallied very nicely from the operation, and made an uninterrupted recovery, her temperature and pulse remaining perfectly normal after the fourth day. She left the hospital on the 21st day, and is now in good health.

Rupture of the tube must have taken place on her way to or at the hospital, probably as a consequence of the jolting of the carriage. This evidently was the cause of the faintness and slight collapse after her arrival at the hospital the evening before the operation.

Comparing the histories of the two cases operated on by me, we find the first case an almost typical one of ectopic pregnancy, and one of comparatively easy diagnosis to one at all familiar with this interesting anomaly, while the second case is as atypical as possible, in which I claim a diagnosis to have been entirely impossible, for there was not the slightest reason to even suspect a pregnancy, as the patient had been menstruating regularly, her last catamenial period terminating just a few days before the operation, and she was still nursing her baby at the time she came under observation.

This case illustrates again the great difficulties in diagnosing extra-uterine pregnancy, and I cannot agree with Hanks, when he states that the diagnosis can be made in at least 95 per cent. of cases. The case also demonstrates that this interesting affection is by no means such a very rare condition as some seem to suppose, as this is the second case occurring in my own practice within the period of four months. That this was a case of tubal pregnancy there could be very little doubt, but in order to be perfectly certain I sent the specimen to Dr. Wm. H. Welch, of Johns Hopkins University, Baltimore, for examination, and he verified the diagnosis. The specimen, he

states, consists of an ovary, part of a Fallopian tube, the intervening broad ligament, the fetal membrane and a placenta with umbilical cord.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

November 27, 1888.

As we are now studying the subject of fractures I embrace every opportunity to illustrate the different fractures of the bones of the human body to you.

FRACTURE OF THE LEFT LEG AND RIGHT THIGH.

The man we show you now is a railroad employé; yesterday while standing on a carload of gravel that was being pushed ahead of the engine, he suddenly became aware that the car was off the track; he signaled the engineer and endeavored to get the train stopped, but before he could do so the car went over an embankment, throwing him and the dirt down the hill. Just before going over the bank, however, he jumped, alighting on his toes, he says. He has sustained a fracture of the left leg and right thigh, and has a wound over the right patella. Whether he received these injuries from jumping, or from being thrown, he does not know; they were at all events probably caused by indirect violence. As he lies before you the first thing you will notice is that his right leg is everted. You also see some swelling. By measuring I find a little shortening of the right leg. He is unable to raise his heel from the table, and as I manipulate the limb I find a false point of motion about the middle of the thigh, so we have nearly all the symptoms of fracture of femur in history of the accident, deformity, swelling, pain, loss of function, false point of motion, but we have no crepitus. This is absent, possibly because the ends of the bone have overlapped or slipped past each other. This is often the case. We have abundant symptoms, however, on which to base a diagnosis of fracture, even if we do not elicit crepitus. We have made strong extension, but failed to bring the two ends together, but for all that it does not follow that they cannot be brought together, for although we may have ap-

plied extension to the amount of a hundred pounds and failed, still by *continuous application* of only eight or ten pounds for thirty-six or forty-eight hours, we may bring these fractured extremities into exact apposition. We do not, however, as a general thing, in a man of this age, expect so good a result as we would in a child, but are usually satisfied if we get strong union with a little shortening. This right leg was dressed with weight and pulley, and Hamilton's splint, which extends from the axilla to the sole of the foot, with a small piece extending out at right angles about six inches from the side of the splint; this is to prevent eversion, or rolling out, or rotatory deformity of the limb. By a bandage around the upper end of the splint and around the body of the patient he is prevented from rising, thus securing quiet and rest. The left leg you see is also broken below the knee, and by the amount of motion we know that both bones are broken. Here, too, we are able to secure almost all of the symptoms of fracture, including crepitus. Shortening, however, is absent, but when both limbs are fractured we have no fixed point from which to calculate, hence shortening becomes of no value as a symptom in this form of fracture. Over the spine of the tibia you see quite a large bleb. Where you find these you must expect to find a low state of vitality and an impaired nutrition; and you must be very careful about applying tight dressings or bandages, or you will surely have gangrene in the extremity of the limb. A question might arise in regard to the treatment of these blebs. Some surgeons recommend that they be opened at once. I never open them. I think that the cuticle heals better under the epidermis than it would do if it were opened and evacuated. My usual mode of treating fractures of this kind will be practiced in this case. The leg will be kept in the fracture box for a week or ten days, and then a plaster dressing put on.

A COMPOUND FRACTURE.

I will next show you the compound fracture which you saw us dress two weeks ago. We have failed to get these fragments to unite, and have been unable to bring them into apposition; there is either a tendon, muscle or piece of bone in the wound preventing union. I propose, to-day, to cut down on these fragments and saw off the ends of the broken fragments, bring them into close apposition and wire them together. Then by diet, regimen and good constitutional treatment generally, we hope to get union and repair here. You see the bone protruding through the skin, and entirely denuded of periosteum; this I will saw off. I have tried so often to impress upon you the dangers from compound fractures as compared with simple fractures, that I say now, that if you are ever able, by the use of lint

soaked in compound tincture of benzoin, collodion or in the patient's blood, to convert a compound into a simple fracture, you have saved your patient much suffering and loss of time, and perhaps his life. But you will often meet with cases like this where you will have trouble in doing this, and you will also meet with other cases in which you will fail entirely.

In all operations on bones I think it a good plan to use an Esmarch bandage. I think it is more useful to the surgeon in these cases even than it is in amputations, but in compound fractures and in injuries where the vitality is low I never like to use it. I am always afraid to do anything that might interfere with the blood vessels leading to the part, and for that reason I would rather lose a little blood than to risk injury to the already devitalized vessels that must carry the material for the repair of the wound. By removing the fractured ends of this tibia I have been able to bring them into apposition, and now, for fear of having bowing of the limb, I will saw out a short section from the fibula. The limb will now be dressed in the usual way, and we will hope for the best for this man, although his limb is by no means yet saved.

December 1, 1888.

FRACTURE OF THE VERTEBRÆ.

The first case I will bring before you to-day is one of those cases of which we see too many in this hospital every year, namely, fracture of one or more of the vertebræ. These cases are, in my mind, the most melancholy of all the cases we have to witness, and they appeal to the sympathy of every man of any feeling at all. If they were crushed and killed outright they would not, it seems to me, present half so sad a picture as they do in cases like this, with the lower part of the body practically dead and the upper part alive and well. They lie on their back, usually, until large bed sores form on their body and they die of exhaustion. This man was a coal miner, and while at his work in the mine, two or three weeks ago, a quantity of slate fell on him, crushing him to the ground and fracturing the vertebræ in the lower dorsal or upper lumbar region. This is the manner in which a great many of these injuries happen. This man also received at the same time a fracture of both bones of the leg three inches below the knee. These injuries of the spinal cord are somewhat allied to injuries of the brain, in so far as paralysis is concerned, although we do not have loss of consciousness, delirium and many of the other symptoms of compression of the brain. He has complete paralysis in his lower extremities, with incontinence of urine and feces. In cases of this kind there is usually, for the first day or two, retention, followed by incontinence of urine. This was the case in this man. He has all the power in his

upper extremities he has ever had, he can roll his head about, flourish his hands and arms in the air, and almost raise himself to the sitting posture, but he is as powerless to raise a foot from the bed as though his two legs were separated from his body. He is also unable to feel me pinch his legs or prick him with a pin. He has paralysis of both motion and sensation. As we turn the man over you see two large bed sores almost covering his entire buttocks, which have formed in the short space of three weeks. When you have a patient that you know must lie in bed for a long time, much benefit may be derived from washing the parts with alcohol every day. Some recommend alum water. This may be done before the ulcers form, but after the ulcers have formed the best thing you can do is to cover them with moleskin plasters or chamois leather, which may be spread with Peruvian balsam.

Now, while these kind of cases almost invariably die, there are exceptions to the rule. There was a man in the wards here about a year ago with just such a fracture as this, except that the deformity was more marked, and he had neither paralysis of motion or sensation, and in three weeks we put a plaster jacket on him and he soon after left the hospital alive and well. The only explanation in this case was that, although there was considerable deformity, it was not in the direction to make pressure on the cord. There are various treatments for these fractures, one of which is by extension and counter-extension, and this I think would have been good treatment in this man's case had it been resorted to early enough. Another mode of treatment is that of cutting down on the vertebræ and elevating the fractured portions, much the same as you would trephine the skull for pressure on the brain.

TREATMENT OF COLD ABSCESSSES.

We have another case to show you to-day, a man with two swellings on his back. His family history is of the best. About one year ago he received a blow on his back over the site of the upper swelling, and eight months ago he had pneumonia, for which his physician painted his back with some substance, after which these swellings appeared. He had them aspirated and a pint of pus withdrawn. After this they again filled up, and I can now readily detect fluctuation, and as I press firmly on the upper swelling the fluid is all pressed out and distends the lower tumor, and I can then press it from the lower back into the upper tumor, so you see they communicate with each other. This is known as a cold abscess, and the contents of a cold abscess differ somewhat from the contents of an acute abscess, that from the latter being thicker in consistency, or creamy and more like normal pus, while that from the chronic form is more fluid or liquefied. In children this matter is likely to form near the

vertebral column, and following the course of the psoas muscle point in the groin. A very superior manner of treatment of cold abscess, in my mind, is that invented by a German surgeon, namely, to evacuate the abscess thoroughly, by means of the aspirator or trocar and canula, then inject into it an ethereal solution of iodoform. The ether evaporates, or diffuses, through the cavity, carrying the iodoform into every pocket, sinus and crevice in the cavity, thus acting as a most thorough antiseptic. This is the treatment I propose to give this case. In passing the trocar I select the most dependent point, because it is here that I am most certain to empty the cavity most thoroughly. This is a good rule to which there are many exceptions, however. In many abscesses you would have to go through a great mass of tissue, in order to open it at the lowest point. In these cases I would advise you to open at the thinnest point, or at the point where nature would, unaided, have made an opening. I will inject two ounces of the ethereal solution of iodoform into this cavity. It will then be left undisturbed for a few days, unless the temperature goes up, or other indications present themselves, showing that all is not doing well. If the temperature goes above 100° I will at once open the entire cavity freely, scrape it out with a Volkmann spoon and drain it thoroughly, and treat it as an acute abscess.

MEDICAL PROGRESS.

DIFFUSE CALCIFICATION OF THE LIVER.—At the meeting of the Pathological Society of London on April 16, Mr. TARGETT showed a specimen of diffuse calcification of the liver, which was removed from a man æt. 62, who died in the Exeter Hospital. It was presented to Guy's Hospital Museum by Dr. Davy. There had been a tumor in the epigastric region for seventeen years, which was very hard but not tender, and did not interfere with his work as a farm laborer. Four months before death he developed an empyema on the right side, for which he was treated in the hospital. At that time the abdomen presented a swelling of stony hardness in the epigastric region, which moved with respiration, and appeared connected with the liver. There was no ascites, but the veins over the upper part of the abdomen and the lower part of the chest were enlarged and varicose. There was no jaundice until two days before death, which resulted from facial erysipelas. The clinical report was very incomplete, and the condition of urine was not mentioned; but at the post-mortem examination the kidneys looked normal, though much enlarged. The spleen was

four or five times its usual size. The liver was firmly adherent to all the surrounding parts; after removal it weighed 66 ozs. The left lobe was very much enlarged, and was the cause of the epigastric swelling. The capsule was much thickened, and the substance of the liver so hard that it had to be sawn into sections. The greater portion of the organ was then found to be replaced by fibrous tissue, which was infiltrated with calcareous deposits, composed of carbonate and phosphate of lime and a large proportion of organic matter, but did not contain cholesterol or bile acids. Microscopic examination of the least affected parts of the liver showed changes like those of monolobular cirrhosis, and there were many groups of small round cells in the strands of fibrous tissue. One striking point was the amount of new tissue in the centre of the lobules spreading out between the rows of liver cells. The other parts of the liver were decalcified and examined, but they showed little more than fibroid tissue. There was no caseation; no gummata or evidence of parasites could be found. He considered that the thickening of the capsule, together with the amount of fibrous tissue in the interior of the organ, were suggestive of the primary change being syphilitic, but there was none of the cicatricial contraction so commonly found in old syphilitic livers. The clinical history did not mention syphilis or alcoholism. The specimen was referred to the Morbid Growths Committee. — *The Lancet*, April 20, 1889.

INTRACELLULAR DIGESTION.—(*Annales de l'Institut Pasteur*, 1889, No. 1.) As most protozoa and phagocytes, because of their smallness, are not well adapted for a microscopical observation of the course of intracellular digestion, Metschnikoff made his observations first on myxomycetæ. The amœboid character of these organisms, their ability to receive carmine-granules, spores, etc., has already been proven by de Bary. The existence of a pepsin-like ferment in *æthaliu septicum* has been established by Krakenberg, and later on by Reinke and Greenwood. To be sure, it seems to be effective only in acid solutions, and for that reason—according to the two last-named authors—is of no benefit to the myxomycetæ themselves. Further difficulties in observing the myxomycetæ exists because of the constant movements of their protoplasm, and because sometimes the granules already taken up are thrown out again, etc. Nevertheless Metschnikoff succeeded in observing in plasmodium *physarum* a paling and all stages of solution of cells from the red sclerotium (of *phlebeomorphia rufa*). The granules of blue litmus powder intermingled with various plasmodii were not only taken up by the latter, but showed also, after a certain time, a decided rose coloring. If a volatile alkali was added or pressure with the cover-glass was made, the blue color of the litmus-

granules reappeared. Many of these granules were enclosed in smaller or larger vacuoli filled with a reddish, clear fluid; others seemed to be directly surrounded by the protoplasm.

Metschnikoff infers from these observations that the plasmodium of the myxomycetæ, although having an alkaline reaction, can produce an acidulous juice with a pepsin-like property to digest albuminous substances. Moreover, Metschnikoff convinced himself that digestion in acid media is not limited to myxomycetæ among lower organisms. The vacuoli fluid of *stylochnia* has a decidedly acid reaction on litmus; as has also that of *vorticella convallaria*, and Le Dantec recently established the same fact for the nutritive vacuoli of stentor polymorphus. There are also instances of digestive juices having neutral reaction in lower organisms; the author mentions several of these. But the main fact is this: that, in general, the method of digestion must be considered as diastatic.

Finally, the author made similar observations, which are not yet finished, upon the phagocytes of the higher animals. The tail of a larva of triton *tæniatus* was cut off and the surface of the wound rubbed with litmus powder. In a portion of the immigrated leucocytes the granules were subsequently found to be light-red. In osteoclasta Roustizky described, in 1874, an acid reaction of the cellular contents. There are many phagocytes in which no chemical reaction was found.—*Centralblatt für Bakteriologie und Parasitenkunde*, 1889, No. 15.

ON A PERMANENTLY SLOW PULSE AND ITS THERAPEUTIC INDICATIONS.—M. HUCHARD has repeatedly had occasion to observe and treat patients who presented the symptom known as a permanently slow pulse. He is convinced that this symptom originates, in a majority of cases, from a sclerosis of the arteries and in consequence of a genuine bulbar ischemia.

Often one cannot count more than from 28 to 30 beats a minute. Frequently the symptom is accompanied by dizziness, and even by epileptic attacks or attacks of syncope. Rarely the slow pulse occurs alone as a single symptom, but it is generally accompanied by attacks of varying character, all originating from sclerosis of the arteries. There are, in most cases, symptoms of cardiac accidents, and M. Huchard has been able to establish the fact that syncope is preceded by a characteristic retrosternal pressure, or even by angina pectoris. Slow pulse is often accompanied by various disorders related, like the latter, to sclerosis of the arteries; one may therefore, in watching the patients, see them become finally afflicted with cardiac troubles or with Bright's disease. Huchard thinks, however, that the name "permanent slow pulse" is defective, for the symptom is often only temporary; he would prefer to call

it "Stokes-Adams' disease," after the first authors who perfectly described these symptoms.

Not less interesting are the therapeutic conclusions. M. Huchard had an opportunity to observe a patient in whom the administration of sulphate of quinine, a vaso-constrictor, produced deplorable results. It is necessary to employ vaso-dilators, because we have to do with symptoms of bulbar ischæmia. This is the principal indication for the treatment. The iodide of potassium or of sodium may be resorted to, but M. Huchard prefers "trinitrine," which, like nitrite of amyl, is a congestant of the nervous centres. Of this he administers once or twice a day 3 drops of an alcoholic solution, 1:100; he makes use also of hypodermic injections, for which he employs the following formula: Water = 10 gr.; alcoholic solution of trinitrine 1:100 = 40 drops. One gram, or one Pravaz syringe-ful, contains 4 drops of trinitrine solution: one may make, therefore, from twice to four times a day, injections with $\frac{1}{4}$ of a syringe-ful.

From a therapeutic standpoint the degree of arterial tension must, therefore, be taken into consideration, which—though difficult to measure—can be estimated perhaps by an auscultation of the heart alone, with an accuracy sufficient for clinical purposes. If there is discovered at the aortic opening a diastolic accentuation of the second murmur, it may be safely supposed there exists an arterial hypertension; on the other hand, when there is lower tension, the second sound of the pulmonary orifice will be intensified. These indications are of great therapeutic importance. In the first period of arterial sclerosis of the heart, when the pressure in the arteries is too great, recourse must be had to vaso-dilators. When, on the other hand, the action of the heart becomes more feeble and the tension in the arteries diminishes, vaso-constrictors, and especially caffeine, should be used.—*La Semaine Médicale*, 1889, No. 14.

ANTIPIRYN IN THE TREATMENT OF DIABETES.

—A. ROBIN sums up the advantages of antipyrin in diabetes, according to his experience, as follows:

1. It may be employed from the outset in the treatment of diabetes where a glycosuria or acute polyuria is to be reduced without delay.

2. It allows of a suspension of the diet in patients who dislike the latter, without their losing the benefit of the previous restriction.

3. It is indicated when the diet, long continued and well tolerated, has produced its greatest effect in reducing the glycosuria and polyuria.

4. A wise combination of diet and antipyrin, associated in a sort of alternating manner, appears to be the best treatment for diabetes.

5. It is not necessary to continue the use of the drug if it does not produce an immediate and considerable diminution of the glycosuria.

6. One of the best ways of judging the effects of antipyrin is not only to ascertain every day the quantity of sugar in the urine, but also to measure daily the quantity of urine and its density. The action of antipyrin is favorable in the proportion in which the quantity diminishes and the density is reduced, or at least the latter should remain stationary. But if, with the quantity of urine diminishing, its density tends to increase, the use of antipyrin should be stopped immediately and permanently.

7. Albuminuria does not constitute an absolute contraindication. Its presence simply involves a question of its dose and of the duration of its use.

8. Finally, loss of appetite, emaciation, a sensation of weakness, pallor, oppression, swelling of the eyelids, or a sensation of tension in the face, are symptoms demonstrating, where they appear, that the use of the antipyrin is more harmful than useful, even if the glycosuria should be influenced favorably.—*La Semaine Médicale*, 1889, No. 15.

AMMONIACAL FERMENTATION OF URINE. —

The subject of ammoniacal fermentation of urine has recently been studied by Drs. A. RUSSO-GILIBERTI and G. DORRO in the Pathological Institute of Palermo, and they have published a note in the new monthly journal, *La Sicilia Medica*, concerning it. The discovery of Pasteur and Van Tiegheim, that in the alkaline fermentation of urine the transformation of urea into ammonia carbonate is correlative with the development of an organized vegetable ferment—the micrococcus ureæ—has now lost its original importance owing to the researches of Miquel and others, which have proved that this transformation is also brought about by the action of other microorganisms. Miquel describes as a factor in ammoniacal fermentation of urine a bacillus ureæ, very slender and mobile, occurring either alone or in groups of from two to four, which can transform urea into carbonate of ammonia almost as efficiently as the micrococcus ureæ; also an aspergillus, the action of which is less prompt. Leube's researches show other bacteria with the same capacity. He describes a sarcina and three species of bacilli, very different to the bacillus ureæ of Miquel, possessing the power of hydrating urea. In Flügge's Institute a micrococcus was obtained from fermented urine which also produces energetic fermentation of urea. It is distinct from Pasteur's, and as it liquefies gelatine it has received the name of micrococcus ureæ liquefaciens. Heraeus obtained four bacilli capable of producing hydration of urea; three liquefied gelatine, and were quite distinct from those described by Leube. It is thus seen that the micrococcus ureæ is not the only microorganism possessing this property. Warrington also, making further researches, found that the bacillus fluorescens had the power of trans-

forming urea into ammonia carbonate, and that certain species of bacteria do not possess that property. More recently, Drs. Russo-Giliberti and Dotto have made experiments with the penicillium glaucum, etc. They made a 2 per cent. solution of pure urea and poured 100 cubic centimetres of it into sterilized tubes; they then sterilized the solution according to Tyndall's method, keeping the tubes one hour a day, for seven days, at a temperature of 65° to 70° C.; one of the tubes was tested by the contents being added to water, which was then distilled and sterilized, no ammonia, nitric acid, nitrous acid or carbonic acid being found. In order to prove the absence of germs, the tubes were kept for ten days in the hot chamber at a temperature varying from 25° to 30° C. In one tube in which penicillium glaucum had been sown there was found an abundance of ammonia carbonate from the transformation of the urea. Consequently, this microbe must be added to the number of those which are capable of causing ammoniacal fermentation of urea.—*The Lancet*, April 20, 1889.

THE VALUE OF SULPHONAL IN THE INSOMNIA OF THE PSYCHOSES, though just now lauded by our German *confrères* and much employed by them, is not in our opinion the equal of chloral, especially if judiciously combined with a suitable bromide salt, like the bromide of ammonium or potassium. Occasionally a patient has returned to us after a trip abroad, and the almost invariable sulphonal prescription in case insomnia followed them there or overtook them while in Germany, and we have been better satisfied with the more complete night's rest and next day's mental tranquility and refreshment that followed the chloral than with that which succeeded the sulphonal. Nevertheless Dr. A. Cramer (*Berlin Klin. Wochenschr.*, 1888, No. 34.) has made experiments in his asylum on forty-five different patients suffering from melancholia, mania, paralysis, paranoia and hebephrenia, in all four hundred and seven experiments. In 92 per cent. sulphonal produced a sleep lasting five hours or longer; it came on in from one-quarter to one hour after the medicine was administered. The dose varied from 30 to 90 grains. The remedy appeared to act harmlessly and drowsiness did not persist long, save in exceptional instances after the patient awakened. The medicine was given at night, usually the most proper time, we may here remark, for the giving of a hypnotic draught.—*Alienist and Neurologist*, April, 1889.

IRRIGATION OF THE STOMACH IN VERY YOUNG CHILDREN.—FAUCHIER, who is the inventor of a tube for irrigation of the stomach, has applied it to children of the first period of life. This operation has long been practiced in Germany upon

children, and with good success. Irrigation of the stomach may be accomplished with the newborn almost as readily as with adults by the aid of a tube and funnel of suitable dimensions. The infant should be held with the head forward, so as to admit of the ready exit of matter which may flow back into the pharynx, the arms being secured under a napkin, which is tied around the neck. The author entirely disapproves of the plan of Ebstein, in keeping the child in the dorsal position while this operation is being performed. A case is narrated in which a child presented grave symptoms of gastro-intestinal disorder twenty-seven days after birth. The author washed out his stomach three times the first and the second days, and twice on the third day, the result being that the vomiting was soon arrested. The period of digestion, which at first lasted four hours, was gradually shortened, the child became quieter, the evacuations became regular, and a normal condition supervened. No medicine was given.—*Le Concours*, Dec. 15, 1888.

OSTEOTOMY FOR ANTERIOR CURVATURES OF THE LEG.—DR. DE FOREST WILLARD closes an interesting paper in the *Medical and Surgical Reporter* with the following conclusions: 1. Anterior tibial curves, during the soft and springy stages, may be corrected by manual rectification and the use of apparatus. 2. Braces are useless after hardening has occurred. 3. Manual fracture is the best and safest remedial operation in young children. 4. Instrumental fracture, or osteoclasis, is not as safe or effective as osteotomy. 5. Aseptic simple osteotomy, for all moderate degrees of curves, and cuneiform section for very severe grades, give almost uniformly good and speedy results, without suppuration. Subcutaneous operation by the saw is also a reliable operation. 6. Plaster of Paris is the simplest and most effective material for securing accurate position and maintaining absolute fixation.—*Gaillard's Medical Journal*, May, 1889.

ON THE PATHOGENIC ACTION OF MICROBES FOUND IN THE URINE OF ECLAMPTICS.—Two years ago E. BLANC made an investigation of this subject. Two rabbits were inoculated, one under the meninges, the other in the veins, with microbes isolated from the urine of an eclamptic patient. The former died with convulsions; the second had infectious nephritis. This year he repeated the experiments on rabbits, guinea-pigs, dogs and rats. The results justify the conclusion that there is in eclamptics a class of pathogenic microbes capable of producing convulsions, especially in pregnant female animals, as also special local symptoms.—*La Semaine Médicale*, 1889, No. 14.

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SATURDAY, MAY 18, 1889.

ELECTRICITY IN GYNECOLOGY.

The above was the title of a paper read at the recent meeting of the Alabama Medical Association, by DR. W. E. B. DAVIS, of Birmingham. He believes that ultra-enthusiasm has led to frequent failure in the use of this remedy, but says there should be no question as to its importance as a therapeutic agent in gynecological practice when such men as Apostoli, the Keiths, Engelmann and other competent observers, who have had experience in its application, report most satisfactory results.

He advises the use of the current of the Edison circuit, direct from the dynamo, when it can be had, and thereby avoid the annoyances and inconveniences of a battery. Portable batteries have proved very disappointing for the administration of high intensities, and his work has been confined principally to office practice. Great stress is laid on the importance of the application of the faradic current in sub-involution of the uterus, and every woman who has had an abortion or is confined at full term, is placed on ergot, and should there be incomplete involution at the expiration of six weeks, he begins at once the use of the faradic current, with the bi-polar, intra-uterine excitor of Apostoli, and repeats the application every second or third day until the organ has returned to its normal size, "which can always be counted on with mathematical certainty." He does not recommend the use of the current immediately after every abortion or delivery as practiced by Apostoli, since this treat-

ment could not or would not be afforded, except by a very small class, unless it were certain that the uterus would not return to its proper size. For this reason ergot is prescribed by him in every case, as stated, since he thinks it acts very much as faradization on the smooth, non-striated muscular fibre of the uterus, although not by any means so prompt, energetic and reliable. All cases are examined at the expiration of six weeks to ascertain whether involution has been complete.

Cases are reported to show the value of the faradic current in sub-involution of the uterus, and to illustrate its efficacy in displacements due to the enlarged, hyperæmic condition of the uterus following parturition. The current of tension—the current from the long, fine wire—has proven a valuable agent for the relief of pain, and cases showing permanent relief were quoted.

The currents of quantity and tension have been used with very satisfactory results as indicated by Apostoli, but recently he has used the current of tension not only for pain, but to stimulate relaxed and enfeebled muscle fibre. The current of tension is borne better by the patient, and he has been unable to recognize the superior results of the current of quantity on muscle over the current of tension. In displacements of the uterus he supports the organ with wool tampons, and does not object to any form of pessary, properly fitted, in connection with the treatment by electricity. He believes that proper support of the organ, combined with the proper application of electricity, to be the most rational treatment for this condition.

When the uterus is enlarged not from subinvolution, but *hyperplasia*, he regards the continuous current as indicated. He says all cases of chronic endometritis are amenable to galvanism¹—the positive current when there is much leucorrhœa or profuse menstruation, and the negative in other cases. From 75 to 150 milliamperes are used twice weekly, for five minutes at a time. He does not say that electricity will do away entirely with such surgical procedures as shortening the round ligaments—Alexander's operation—or attaching the cornua of the organ to the abdominal wall, or the narrowing of the vagina by the many methods at present in vogue, but insists that many cases can be relieved by this method of treatment

¹ Apostoli. Chronic Metritis, etc.

which would otherwise be condemned to the knife.

He says the local application of the faradic current is capable of relieving many cases of amenorrhœa due to atrophy of the uterus. In menorrhagia, due to relaxation of muscle, to engorgement, when patient menstruates from eight to nine days, after a few applications the menstrual periods would only last from four to five days. The positive galvanic current is the remedy indicated for hæmorrhage due to a disease of the endometrium, and is the current usually indicated for hæmorrhage. Women often become pregnant soon after being treated by electricity, and it is unquestionably a valuable remedy for sterility due to nervous causes, so ably described by Dr. Campbell.

Neuralgic dysmenorrhœa and dysmenorrhœa in women of a hysterical temperament—whom the slightest excitement or worry will cause to suffer greatly—those cases where there is no apparent pathological lesion—he has succeeded, as with no other remedy, by the application of the current of tension or by the mild positive galvanic current. The negative current is indicated when the pain is due to mechanical causes in the cervical canal, and when there are inflammatory deposits around the ovaries, etc.

He said the subject which had concerned the profession most in connection with the use of electricity was *the treatment of fibroid tumors*, and the results of the treatment in the hands of Apostoli, the Keiths, Engelmann, Laphorn Smith and others, had demonstrated that this is *the treatment* for fibroid tumors which "offer probabilities of healthy retrograde metamorphosis."—Engelmann.

He had followed Apostoli's instructions in this class of neoplasms, and believed that the majority of cases could be symptomatically cured. Certainly Apostoli's treatment should be tried before resorting to hysterectomy.

HOT WATER IN ABDOMINAL SECTION.

At the recent meeting of the California State Medical Society, DR. BEVERLY McMONAGLE, Chairman of the Committee on Gynecology, read an interesting report on Pelvic Abscess and its Treatment by Abdominal Section. He mentioned one case in which "slight salivation followed the washing out of the abdominal cavity with a solu-

tion of bichloride 1:10,000." Since that occurrence he had used instead of antiseptic solutions in the abdominal cavity, pure water at a temperature varying from 110° to 120° F., but which had been thoroughly boiled. In the discussion that followed the reading of the report, Dr. H. W. Smith, of Placerville, said he had done some work in abdominal surgery; "and in using a 1:1,000 sublimate solution he had seen slight salivation follow. Since then he had used boiled water, and his cases had done much better than with either carbolic acid or corrosive sublimate."

Dr. E. A. Follansbee, of Los Angeles, agreed with Drs. McMonagle and Smith, saying that she had used the boiled water in her operations for about three years, and had found it reliable and much safer.

We have recently noticed reports of several laparotomies having been performed by different persons successfully without the use of any antiseptic solutions, using instead only hot water. And it is well known that Dr. Bantock, of London, uses only hot water in all his operations, discarding antiseptic solutions entirely, both for instruments and for perfectly cleansing wounds and cavities. Yet our London letter, in *THE JOURNAL* of April 20, 1889, says, concerning Dr. Bantock, "his results are unsurpassed." If the proper use of hot water is thus capable of yielding results that are not surpassed by any antiseptic solution, in the practice of abdominal and pelvic surgery, it certainly has the advantages of being cheap, ready at hand and entirely safe.

A NEEDED PRESCRIPTION.

The intensity with which Americans apply themselves to business is everywhere proverbial. Gigantic corporations, manufacturing and commercial industries, and business demands of every sort, lay upon men burdens too heavy to be borne. As a result, vast numbers succumb prematurely and seek medical advice as to the best means for relief. Absolute *rest* is the obvious necessity, and so the mountain air, the sea-side resort, or the ocean voyage, is the thing enjoined. The advice was timely and wise, and the results are usually highly satisfactory.

Now it often happens that the very same advice which the doctor gives to his patients should be

* See Occidental Medical Times, May, 1889.

followed by himself. From labors so imperative and so exacting, duty to himself, to his family, and to his patients, often requires that a physician shall religiously set aside a brief portion of each year that he may turn aside and rest awhile. The prescription which *THE JOURNAL* proffers to its patrons is more particularly applicable to the practitioners in the Mississippi Valley and the regions which lie beyond. It is as follows:

Leave home this year early in June, spend a week among the lovely New England mountains, and instead of an ocean voyage, and the undesirable sea-sickness incident thereto, seek a sea-side resort for one full week in one of the oldest and most lovely New England towns, and while in attendance upon the Annual Meeting of the American Medical Association the recuperated physician will not soon forget the pleasure and the benefits of another week's sojourn at NEW-PORT-BY-THE-SEA.

EDITORIAL NOTES.

NEW MEDICAL JOURNAL.—*The Kansas Medical Journal*, a monthly periodical of thirty-two pages, has made its appearance on our table. It makes a good appearance both in its typographical execution and in the character of its contents. It is published at Topeka, Kansas, and edited by a committee consisting of Dr. W. L. Schenck, Osage City, and Drs. G. E. Minney and S. G. Stewart of Topeka, Kansas.

DR. HARVEY LINDSLEY, of Washington, D. C., died April, 28, 1889, at the advanced age of 85 years. He was one of the founders of the Medical Society of the District of Columbia; a Professor in the National Medical College several years; and was elected President of the American Medical Association at its first annual meeting, in Washington, in 1858.

PROPOSED CHANGES IN THE CONSTITUTION OF THE ILLINOIS STATE MEDICAL SOCIETY.—We have just received a copy of *The Peoria Medical Journal* for April, containing an abstract of the changes proposed in the Constitution of this State Society, by a Committee appointed at the annual meeting of 1888. Several of the propositions presented by the Committee should receive the careful consideration of the members before deciding in favor of their adoption. The proposi-

tion to change the *time* of the annual meetings from the *third* to the *first* Tuesday in May, is particularly objectionable, as that is the same day that nearly all the meetings of the American Medical Association have been held when the *place* has been south of the line of New York and Chicago. There should be a full attendance from all parts of the State.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

Section on Laryngology and Otology.

In addition to the list published May 4th the Secretary has received promises of papers from the following gentlemen. Seven of these have given only conditional promises, but it will be seen that the Section has secured absolute promises of forty papers, and promises of eleven more, most of which we may reasonably expect will be forthcoming. The Secretary desires specially to urge those who have been in any doubt about their ability to write, to make a special effort for this first meeting of the Section. The large number of papers secured must not be taken as an excuse for not writing, but each and every one should remember that his pledge may be the main reason with several physicians for making a long and expensive trip to the meeting of the Association.

The officers of this Section again urge their personal friends to make an extra effort to help them at this time.

The following names complete the list of those from whom we expect papers: J. E. Schadle, J. L. Thompson, J. H. Bryan, W. Freudenthal, Chas. Stover Allen, Frank H. Potter, J. W. Gleitsman, Louis Jurist, J. B. Lippincott, H. A. Johnson, Robert Levy, Joseph A. White, C. W. Johnson, J. D. Arnold, F. S. Crossfield, W. K. Simpson, Wm. Porter, D. N. Rankin, J. H. Bryan, Jonathan Wright, Arthur Duncan, E. R. Lewis, Max Thorner, H. Clinton McSherry, F. I. Knight, J. Solis-Cohen, J. C. Mulhall, W. E. Casselberry, S. J. Radcliff.

E. FLETCHER INGALS, M.D., Secretary,
70 State St., Chicago.

W. H. DALY, M.D., President.

Section on State Medicine.

The following additional papers have been received:

"Bacteriological Examination of Several Native Mineral Waters in the Bottled State." Dr. George Minges, Dubuque, Iowa.

"Climatological Characteristics of Salt Lake City." Dr. F. S. Bascom, Utah.

SOCIETY PROCEEDINGS.

Obstetrical Society of Philadelphia.

Thursday, April 4, 1889.

THE VICE-PRESIDENT, W. H. H. GITHENS,
M.D., IN THE CHAIR.

DR. G. E. SHOEMAKER described an improvised waterproof drainage-pad for operations.

The only point of the arrangement here described is that it may be improvised in any household, even the poorest; and it is not intended that it shall take the place of the excellent device so widely advertised by an instrument-maker, except in emergencies. It happens to every one, however, to be called upon to do various minor operations when out of the reach of all formal apparatus, and in a number of cases where it was desirable to use water freely without wetting the bed or the patient, the writer has obtained the greatest comfort and satisfaction by the following means:

The necessary material, which can be had anywhere, consists of a sheet or thin coverlet and a piece of rubber cloth or table oil-cloth.

The sheet is folded twice, and then made into a tight roll about three or four feet long to form the rim. This roll, laid near the edge of the bed or table, is bent in the form of letter O, with a six-inch opening on one side of the O, the ends of the roll at this opening being fastened by safety-pins strongly to the edge of the mattress or the cover on the table.

When the rubber cloth is thrown loosely over this, a basin is formed which is open at the edge of the bed, and fluids readily find their way into a vessel on the floor to which the rubber cloth leads. Even a prolonged perineum operation, under constant irrigation, may be accomplished without any disarrangement or leakage. The same arrangement will be found to be of great assistance to patients in that troublesome procedure, the daily hot-water douche.

This may, of course, be called only an adaptation of the idea in the advertised pad before referred to. It may also be called a modification of the waterproof sheet which every woman has used on her bed since the deluge. The only object here is to call attention to the fact that we can, any of us, by simply making a curved ridge in this sheet, and paying some regard to the ordinary laws of hydrostatics, make for ourselves in five minutes a very great convenience, and save our patients and their attendants a good deal of trouble and annoyance.

DR. W. S. STEWART narrated the removal of a large, adherent, degenerated, parovarian cyst:

A young lady, æt. 24 years, was brought to our hospital from New Jersey, by her physician,

for examination and such treatment as should be determined on. I found in the left iliac region a hard mass, which, at first examination, seemed to be solid; but a more careful examination with the finger in Douglas' cul-de-sac, with palpation from above, revealed some fluctuation. On moving the uterus, the mass was found to be adherent to that organ, causing some doubt as to whether or not it was a true ovarian trouble. In consultation with my *confidère*, Dr. Montgomery, it was decided to remove the tumor, as from the history it evidently caused much suffering, with rather increased pain, distress, and irregular menstruation, and was developing more or less rapidly.

Two days later the patient was put on the table, and she almost died from the ether before the operation began. I was kindly assisted by the resident Dr. Hughes, chief of clinic, Dr. West and Dr. Dorman. On reaching the upper portion of the tumor, I found it adherent to the omentum, to the small bowel, to the walls of the abdomen, to the uterus, and to every part with which it was approximated. It was also deeply seated in the pelvis. On introducing the trocar, I found that the tumor was filled with pus. The liquid degenerated, and we had a pent-up septic fluid in an almost aseptic condition. I rapidly removed the disintegrated sac from the parts to which it was attached, working as rapidly as possible, for the patient seemed to be going to die every moment. Not finding any pedicle, I was obliged to dissect the sac off as carefully as possible, and was delayed some time in getting it off. Considerable oozing, but no special bleeding, occurred. I found the adhesions to the uterus so firm that it was impossible to separate the sac, and if I had used a knife, considerable time would probably have been required in ligating the vessels. I therefore transfixed the side of the uterus with a ligature, and tied both above and below, and clipped off the margin as close as possible without affecting the ligature. Where the sac penetrated deeply into the tissues of the pelvis, I ligated as closely as possible and clipped off the remaining portion of the sac. The pus escaped considerably through the pelvis, and I thoroughly irrigated with pure warm water and stitched up the wound, leaving a drainage-tube in position. The patient was returned to her room with a temperature of 96°, almost moribund. Under the use of restoratives, hot bottles, hot applications, and a hot room, she soon regained her normal temperature, and made a speedy recovery without an untoward symptom. The stitches were removed on the eighth day, and the drainage-tube allowed to remain until the ninth day. The present prospects are, that the patient will entirely recover, and is now (third week) going about her room in the hospital.

As bearing on the cause of this trouble, I would say that I have learned that she lived on a

farm, and that four years ago she took the part of a man in the harvest-field. Her work was pitching the sheaves from a platform in the barn up into a higher portion of the mow. Not having the strength to use the long-handled fork, she put her elbow down on the affected side, and with this as a fulcrum, and the other hand as a pry, she threw the sheaves up. In this way, possibly, she injured herself. This is a suggestion worth knowing, as a possible cause for this development. At this time she was wearing corsets, and this would confine everything, so that the pressure of the elbow caused an additional strain or possible contusion.

DR. M. PRICE: One point that I have noticed in regard to these pus tumors is, that the danger of the operation does not seem to be increased by the fact that they are filled with pus. The patient referred to had probably been in a septic condition at the time of operation, and the moment that the tumor was removed and thorough drainage instituted, her chances probably were as good, if not better, than in a case of simple tumor not in a sloughing condition. I have never seen a tumor filled with pus give any trouble after removal. So far as I know the patients have always done well.

DR. J. M. BALDY: I must disagree with Dr. Price. It seems to me that the presence of pus and of a septic condition would considerably increase the risks of operation. In the removal of a cyst in which there had been no septic trouble, and before suppuration had taken place, the woman would be in good condition, and probably have suffered from no symptoms, save, perhaps, those of slight enlargement. In a case of that kind the risks would be small. Where a woman becomes septic from whatever cause, the risks are seriously increased.

In regard to the cause suggested, I think that there is no very good basis for assuming that this had any effect. I do not think that the pitching of sheaves and the pressure of the elbow would cause the development of such a tumor. This might have been an incidental exciting cause, but that it was the primary exciting cause we have not sufficient ground for believing. Many women develop tumors without having any severe labor of that kind. On the other hand, I have seen women who have performed such labor daily, to the severity of which I can personally testify, and never develop anything like ovarian trouble. The wholesome exercise of working in the field would, in a healthy woman, predispose rather to good health than to disease.

DR. M. PRICE: It is a well-established fact in surgery that a recent injury in a previous healthy individual requiring a surgical operation is more dangerous than where the operation is for an old injury. The chances of the second patient would be a hundred-fold better. I had my limb broken.

A healthier boy never lived, and for six weeks it was a struggle for life. A year later I had the limb amputated, and I can testify that I have suffered more from the extraction of a tooth than from that operation. If the limb had been operated on at the time of the injury, I should probably have died. I was not used to suffering. There had been no preparation. I do not pretend to say that the presence of pus gave the patient a better chance, but the suffering prepared her for a surgical procedure which, in her case, would be more successful than it would be in a case of simple tumor with adhesions. In uncomplicated ovarian tumor, the operation is one of the simplest in surgery. The case reported was probably one of intra-ligamentous cyst, or perhaps a twisted pedicle. If the operation had been performed before pus appeared, with these strong, unchanged adhesions, her chances would not have been so great as after sloughing had taken place, and degeneration of the adhesions had begun. There was less hæmorrhage and less shock. The patient had been prepared for what had to be done.

DR. W. L. TAYLOR: I would agree with Dr. Baldy that the removal of a sloughing cyst would cause greater risk to the patient than the removal of a simple ovarian tumor. A patient with a sloughing cyst is necessarily suffering from septic trouble. She is weak and depressed, and her vital powers are lessened. In an ovarian cyst the vital forces are in a good condition for operation. This is the only point to which I would refer, as I did not hear the paper.

DR. STEWART: I think that both Dr. Baldy and Dr. Price may be right. Where the septic condition has not reduced the patients to such an extent as to preclude their recovery, they often resist shock and recover rapidly. The shock is less severe than in an operation in a patient in vigorous health. I can understand this, and have seen it in some cases. In my case the patient scarcely survived the operation; but when the effects of the shock had passed off, her recovery did not seem to be influenced whatever.

DR. J. HOFFMAN read the following:

CRANIOTOMY FOR A CASE OF HYDROCEPHALUS, with a discussion of the Technique of the Operation, together with a Consideration of the Conditions that demand it.

At midnight of Dec. 23, 1888, I was called by a midwife to see a woman. She was unable to deliver, after, as I afterwards found out, continual effort for four hours. I found the woman much worn out by her pains, which were ineffectual, though her pulse and condition were, all in all, good. Examination showed a large head, well engaged, lying transverse in the pelvis, the occiput to the left.

I at once put on the Pouliet forceps but though

they were accurately applied, was unable to rotate the head, the forceps finally slipping. After a great deal of difficulty, I again succeeded in applying them, with like result, slipping on traction. A third effort to apply them was only successful after placing the woman on her side. Traction, was, however, no more successful than before. I then desisted from further efforts at delivery, two hours having elapsed, and brought Dr. Joseph Price in consultation. Dr. Price, after a great deal of trouble, succeeded in applying the Tarnier traction forceps, with no better success, however, than had followed the use of the Poulet instrument. From the constant slipping of his forceps, Dr. Price suspected a hydrocephalic head, and so expressed himself. I, on the contrary, thought otherwise, as the bones while not so firm and resisting as usual, did not seem to be sufficiently flacid to indicate dydrocephalus, at least to me. Events, however, proved the correctness of Dr. Price's suspicion, or rather diagnosis; for there being no heart sounds when the head was perforated, the rush of water left no doubt as to the true condition. The instruments used were those presented to-night, as they already have been before. They consist of a crushing forceps, which, from its pelvic curve, is as readily introduced and applied as the ordinary forceps. The non-fenestrated blades afford the safety of a speculum for perforation, and leave no manipulation necessary after that part of the operation has been performed. All considering this subject seem to take for granted that the crushing instrument in all craniotomy procedures must be applied after perforation. This, it seems to me, supplies one of the greatest dangers of the operation, and conduces to an unnecessary fatality. The preapplication of the crushing instrument not only protects the maternal soft parts from the danger of injury by the perforator, but also a more exact adjustment, by a gradually applied force as the head is reduced and its contents evacuated by the perforator. The ease of application of this instrument can be appreciated by any one familiar with the ordinary forceps.

The point of this perforator Dr. Price has intended to be protected by the buckskin finger, and the skull pierced through it. This is, however, not really necessary, as the speculum afforded by the crushing blades, together with that afforded by the introducing finger, makes the leather unnecessary.

The combination of instruments afforded in this craniotomy set seems to leave nothing further to be desired, even if further destruction of the fœtus is necessary, than the mere reduction of the head. For the consideration of the conditions which demand this operation, there is at present, perhaps, a greater necessity than the mere statement of its technique with any set of instruments whatever. Many of our recent

writers apparently desire to condemn it in all cases whatsoever upon the living fœtus without exception. As a type of these may be taken the views of Dr. Busey, in the *American Journal of Obstetrics*, January, 1889. These writers, of which Dr. Busey may be taken as a type, fail to appreciate the fact that we need go back no further than Hodge to find that in cases where the short diameter of the pelvis is two inches or under, the Cæsarean operation is to be preferred, as affording a better prospect for the mother, while having the strong recommendation of affording a good prospect of safety to the child; this, too, before the improved Cæsarean operation was devised. These writers seem, too, to fail to appreciate that long ago as the writer referred to, to go no further back, the early performance of the Cæsarean section was specifically stated as justifying strong hopes for "the salvation of both mother and child." It is not the purpose of this paper to discuss the relative merits of the Cæsarian section and craniotomy, nor the comparative values of the mother's and the infant's life. It is not possible to avoid, nevertheless, the observation that those writers who unhesitatingly apply the statistical method at arriving at conclusions relative to these in favor of the first operation, seemingly forget that the dangers of craniotomy almost entirely lie within the limits already admitted into the domain of legitimate Cæsarian section, and that outside of these cases the danger to the mother is almost absolutely nothing, as admitted by Lusk in his late discussion. They seem, too, to consider that craniotomy, to be successful, must be done by the expert, and that the Cæsarian section is the safer, no matter by whom performed. To this we submit a positive disagreement, though even Dr. Tait has gone so far as to say in effect that the removal of the pregnant uterus is a simple operation. Dr. Busey refers to the "dream of Tyler Smith, as to the abolition of craniotomy from the obstetric practice."

When we consider the paper of Tyler Smith, to which reference is made, we can readily understand how opportune was the plea. The table of cases therein quoted from cases in "British Practice," affording excuse for craniotomy, state twenty-five indications for its performance, among which are, to wit: arm or shoulder presentations, rupture of the uterus, face presentations, bands or cicatrices in the vagina, placenta prævia, rigidity of the perinæum, occipito-posterior presentations, etc. "With such 'indications' as these there was need of a voice crying in the wilderness."

The point to be here considered is whether the decial of the abuse of any operation necessarily implies that there is never any requirement or justification of such operation. We think not. No one will dispute that where there is danger

to the mother in the performance of craniotomy, the conservative operation of Cæsarian section should be performed. On the other hand, where there is no danger to the mother whatever, I consider it questionable whether any obstetrician here present would subject his own wife to the danger of a capital operation in order to save the life of the child. Secondly, in cases where such deformity as hydrocephalus or spina-bifida is discovered, I do not believe that the life of the child should be considered as compared with the mother's in the danger of the Cæsarian section, providing that the pelvic contraction be not so great as to bring craniotomy farther beyond the danger line than the Cæsarian operation.

The application of the same principle in the case of monsters needs no discussion.

The woman recovered without a bad symptom.

DR. STEWART: I would say a word in regard to this case of hydrocephalus. I have had two or three such cases and have had no difficulty in delivering after penetrating the skull and allowing the water to escape. I consider this an ingenious instrument, but I have used the old-fashioned perforator, cutting both ways. After introducing the blades and separating them you have a free escape of the liquid. The skull then collapses and there is no further difficulty. You can deliver then with any forceps. Such has been my experience.

DR. DANIEL LONGAKER: I have not used this instrument of Dr. Price, but I can readily see that in a certain class of cases, *e. g.*, hydrocephalus, it would be excellent. I desire, however, to say, that in craniotomy, and especially in cases of marked deformity of the pelvis I have used with the most marked satisfaction the cranioclast of Braun, and the perforator of Blot. I do not see how in ordinarily careful and skillful hands any injury can be done with this perforator. The trepan is certainly a safe instrument.

DR. J. PRICE: I have discussed this matter on several occasions, but the remarks of Dr. Longaker invite me to say something. The application of the instruments mentioned is difficult. When closed they occupy one inch of pelvic space. Much damage is often done, and the mortality in craniotomy has been largely due to injury of the maternal soft parts by this instrument. In one case the sacrum was trephined with the instrument alluded to. Hodge long ago called attention to the use of the ordinary forceps as a compressor. This instrument is made on the same principle, and the strength is in the handles. You can crush anything with this instrument. Anyone who can apply forceps can apply this instrument in any pelvis where the forceps can be applied. It can be applied in a pelvis with a diameter of one and a half inches. I have seen it successfully applied by beginners in the case of dead children without doing any mischief. The

instrument is used first as a speculum, second for fixation, and third for compression.

DR. LONGAKER: It is only necessary to refer to my own experience with cranioclast, and to confirm my favorable opinion of the operation. I will refer to a paper which can be found in the *American Journal of Obstetrics*, I think, for December, 1884. Cases by the fifties and hundreds are reported without a fatal result. This is a proof of the safety of cranioclast, which I consider the better operation where there is a high degree of pelvic deformity.

DR. J. PRICE presented specimens with remarks:

I desire first to present two fresh specimens. One was very unique, removed day before yesterday,—a case of double pus-tubes and double ovarian abscess, with pus in the cellular tissue. The ovaries were cheesy shells, and they both ruptured in the removal. The pavilions were entirely gone. There was no hesitation on the part of those present in regard to the character of the fluid. It was pus. Much has been said in regard to the character of the fluid from this locality. If such liquid was removed from other parts of the body there would be no question in regard to its character. I open one of these tubes before you, and I trust that you will examine the fluid carefully.

This is a typical case of ovarian cyst, no larger than an egg, with no semblance of the pavilion. This contained fluid; but I do not claim that it was pus. The cyst was strongly adherent, and I had to shell it out.

Here is an enormous ovarian abscess, unquestionably due to gonorrhœa.

You will find that the most of these tubes have been cut through, and a stick inserted. Most of them on removal were as large as the uterus. All of the patients were great sufferers. I am sometimes asked what becomes of the patients who refuse operation. In five of these cases I had urged section from a few months to several years previously.

This specimen is from a woman to whom I urged operation five years ago. It is an enormous dermoid cyst, encapsuled by omentum. It looked like a hopeless case, but she made a good recovery.

Here are two small ovarian cysts, in which it would have been easy to guess at the diagnosis of extra-uterine pregnancy. Here are typical pus-tubes, and you can bear in mind that the character of the fluid in these cases was that of the tubes before you.

I have here a group of four or five small cysts, the removal of which I consider important. These patients suffered severe pain. These occurred in young women who were able to definitely locate the seat of the pain. One of these small cysts developed in a recently married woman

19 or 20 years of age. She saw me three days ago, three months after the operation, and states that she has missed the last two periods.

This small tumor was removed by Dr. Müller, of Germantown. The ovary is healthy, and you see a very pretty parovarian cyst. The woman made a speedy recovery.

I have here two extra-uterine pregnancies. The placenta and clot in one is seen in the tube, and can be removed. This is unquestionably an extra-uterine pregnancy. In the other the placenta is inside. The specimen has been examined by Dr. Piersol and Dr. Meigs, and they state that it is undoubtedly extra-uterine pregnancy. This is a hydrosalpinx of the opposite side of the first case. Here you have a beautiful illustration of the existence of double disease. On one side desquamative salpingitis, hydrosalpinx, and pus-tubes, and on the other side extra-uterine pregnancy. The second case was an example of double tubal pregnancy, and both tubes had ruptured. This woman lived after the uterus had been curetted twice, and iodine had been injected after the second operation. The bleeding continued, and until the abdomen became distended, it was not deemed necessary to do anything further.

I desire to say that four of these operations followed Emmet's operation for laceration of the cervix. If there exists any tubal disease, this is a dangerous procedure. Some one has remarked that Emmet has gone back on his operation. He has uttered a word of caution because of the mortality in the hands of some of his followers. Many of the cases come back to him. Where there has been tubal disease, many deaths have occurred, and many patients are invalids. I do not condemn the operation. I know it to be valuable in well-selected cases, when you can exclude the existence of tubal diseases.

DR. M. PRICE: Here again comes up the question of the preparation of the patient by the leakage that has been going on in the pus cases. I have seen at least fifty pus cases in the last two years. Very rarely is it that you can deliver the tube without some leakage and perhaps rupture. These cases have recovered and do better than some simple cases. Our nurses always prefer a pus case where a drainage-tube has been used. Where a patient is poisoned and dying, no one makes any claim that there is any advantage; but where inflammatory changes have been going on for a long time, there is, unquestionably, a preparation. I have never seen but one case of pus in the pelvis die. That case died from starvation from the nurse drinking the milk. These cases recover if the enucleation has been done with care, and irrigation and drainage properly performed.

DR. HOFFMAN: In regard to the gonorrhœal origin of these troubles, I would say that two

weeks ago I had a child two weeks old brought to me with sore eyes. I applied nitrate of silver, and gave explicit directions as to treatment. In three days the child lost its sight. I found that the mother had gonorrhœa of the most virulent form. I also found ovarian and tubal trouble very marked on one side. She had been married only a short time and previously had known no trouble. There seems to be a connection between the inflammation of the child's eyes, the gonorrhœal discharge from the vagina of the mother, and the trouble in the pelvis.

DR. J. M. BALDY: I do not care to say anything in regard to pus-tubes, because my views have been often expressed. I would again take exception to the view of the preparation of the patient by sepsis. It is true that in many surgical injuries better results are secured where the operation is done some time subsequently than when it is done at once. This is not because of septic infection. Shock is here a great element. This brings up the old theory that it was better to allow ovarian tumors to reach a large size, in order that the peritoneum might be prepared, etc. We have long since given this up, and we shall quickly have to give up the idea that the patient is prepared for operation by being septicallly infected.

Dr. Hoffman has referred to the connection between inflammation of the child's eyes and gonorrhœa in the woman. Individual cases do not go for much. The fact that the child has inflamed eyes does not indicate positively the existence of gonorrhœa. The nurse's hands being contaminated by the septic lochial discharges may infect the child's eyes.

In discussing this matter in the Pathological Society the other night, the president stated that he had seen unquestionable gonorrhœal pus-tubes removed from a single woman. On inquiry, however, he admitted that the woman had had two criminal abortions a short time before. This was probably the cause of the inflammatory trouble, and this is the history of many of these cases. I protest against the view that assigns gonorrhœa as the cause of all of these cases. It is a dangerous teaching for ourselves as a profession, and it is dangerous teaching to the laity. If we teach the laity that all these cases, or most of them, are of gonorrhœal origin, we shall cause an unlimited degree of marital unhappiness throughout the country, and shall cause irreparable family troubles. We certainly have to have better and more scientific ground than mere clinical histories before we can accept this extreme view. Dr. Hoffman, in a recent discussion, cited the statistics of Bernutz and Goupil as a proof of this view. Out of ninety-nine cases, about forty-six were of gonorrhœal origin, and these were in the lowest class of women. Even by these picked statistics, and amongst this low class, over half

were of septic origin, and many of the supposed gonorrhœal ones I would be inclined to dispute. I must adhere to my opinion, that by all odds septic infection is the most common cause.

DR. M. PRICE: The report referred to was from Charity Lying-in-Hospital, with a record of fifty per cent. gonorrhœa. The remainder are attributed to sepsis and wounds during labor.

DR. W. H. PARISH: I would endorse what has been said as to the inadvisability of operating for lacerated cervix where there is disease of the tubes and ovaries. We know that salpingitis is often an extension from the endometrium, often gonorrhœal, sometimes septic. Thorough drainage is important, not only in the treatment of the endometritis, but also in the palliative treatment of the endo-salpingitis. By narrowing the uterine canal, we prevent the free escape of pus and other fluids, and aggravate the trouble. I consider it unwise and not safe to operate on these cases. Within the past week I was called to operate on a lacerated cervix. I had not seen the patient for twelve months. After etherization, I found evidence of tubal disease on one side and declined to operate on the cervix.

DR. J. PRICE: In regard to this question of percentage I agree largely with Dr. Baldy. He admits this evening what he did not admit in the discussion at the County Medical Society—that these cases are largely due to gonorrhœa. Criminal abortions, cold, and exposure are other common causes of such mischief. Mr. Tait, and many others, are operating on a simpler class of cases than we are. Operating to save lives has been the course of many Philadelphia operators. In all of the cases reported the operation was done to save life.

The operation should be rapid, every detail should be shortened. The ligature should be the finest possible. Large plaited ligatures are not absorbed, and are at the bottom of many sinuses. The ligature should be applied at the root of the tube. Complete delivery of the tube and ovary, tying at a good surgical neck; then thorough irrigation, with careful closure and perfect drainage. There are two things in which my convictions are as firmly fixed as in anything in medicine; and that is, first, the value of irrigation, and, second, the value of drainage.

Gynecological Society of Chicago.

Regular Meeting, Friday, Dec. 21, 1888.

THE PRESIDENT, CHARLES T. PARKES, M.D.,
IN THE CHAIR.

DR. W. W. JAGGARD read the following note, entitled,

TWO OBSERVATIONS OF TYPHOID FEVER DURING PREGNANCY.

I report the two examples of typhoid fever

during pregnancy, both on account of the intrinsic interest of the case, as well as to bring out the experience of others with this complication. Typhoid fever is of very frequent occurrence in Chicago, and the Fellows that have resided in the city for a considerable period can doubtless supply important facts that bear upon the reciprocal relations of this disease and pregnancy.

This note may be regarded as in a measure supplemental to the excellent discussion of typhoid fever, recently held before the Chicago Medical Society, at the suggestion of its President, and our distinguished Fellow, Dr. J. H. Etheridge.

Observation No. 1.—This case was observed and described by my friend, Dr. William M. Findley, of Altoona, Pa.

Mrs. M. H. Y., aged 24 years, Irish extraction, whose husband had been ill some six weeks with typhoid fever, was, after the initial prodromata, taken down with well-marked typhoid fever, May 7, 1873. Temperature and pulse ranging high in evening, with epistaxis and diarrhœa early. The case would not have attracted unusual attention except for the fact that she was pregnant, and her labor was anticipated on the 10th of May, 1873. She, however, was not taken in labor until the 15th of May. On the evening of the 14th of May I was called about 9 P.M., after my regular visits for the day, and found her condition as follows: Temperature 103°, pulse 140, respirations 36, with marked bronchial irritation and secretion—having had six characteristic stools during the day in spite of remedies—and the contractions of the uterus quite strong and regular, os dilated to half-dollar piece size and dilating. The heart being very feeble, and jactitation marked, with exhaustion coming on rapidly, I gave her, *ad libitum*, best port wine and brandy, so that in the four or five hours of labor she took about a quart of brandy, and about as much more port wine, with no other effect than to keep her in the same condition as I had left her before labor came on. In due time the labor was terminated, contraction was perfect, once the product of conception was expelled completely, and no untoward results followed. Although during labor her bowels were moved copiously some six or eight times, after labor the bowel trouble seemed to subside greatly, and she passed on to convalescence in some three weeks without marked irregularities, as in an ordinary case of uncomplicated typhoid fever. The secretion of milk was entirely suppressed, the mammary glands never showing any signs of activity during her illness.

The condition of the child, however, was remarkable. The entire cuticle or epidermis was shrivelled and creased as though it had been macerated in hot water, and in a day or two it was covered with bullous spots from head to foot, vesicular first, then pustular. As the boy was

healthy in other respects, in the course of a week or ten days the eruption, under emollients, was well, and the cuticle becoming detached was replaced by healthy skin tissue and the baby was well, except that as a young man he carries the cicatrices of some of the bullæ.

Observation No. 2.—This case came under my own observation. From the history of the case, written by Dr. B. L. Riese, I make the following extracts :

Mrs. A. McG., 23 years old, married June 17, 1888. Last menstruation June 10, 1888. Morning sickness six weeks after marriage. Husband and wife taken sick with typhoid fever about the 28th of August ; both admitted to Mercy Hospital September 4th. Husband died a few days later of a malignant type of the disease. In the case of the wife the disease pursued a typical course lasting about three weeks ; maximum temperature, 103.4 F. ; maximum pulse, 130. October 1st, several days after the subsidence of the fever, severe pains referred to the hypogastric region, hæmorrhage from the vagina. After irrigation of the vagina, indagation revealed the vaginal portion softened and the ovum presenting through the cervical canal. Plan of treatment, expectant, in the absence of serious hæmorrhage or symptoms of sepsis. October 3d, escape of liquor amnii ; on examination, fœtus protruding through the os externum ; removal of the fœtus, placenta and membranes by bimanual manipulation under aseptical conditions.

The patient made an uninterrupted recovery. The ovum corresponded to the fourteenth week. (Presented for inspection.) The apparent cause of abortion in this case was hæmorrhage into the decidua serotina and placenta fetalis. The extravasation occurred before the removal of the product of conception. This fact is evident from the characters of the clot, as large as an English walnut, and firmly imbedded within the placental tissue. The presence of hæmorrhagic endometritis may be inferred from the character of the decidua vera and chorion læve.

With reference to the mutually unfavorable relations of typhoid fever and pregnancy, experience teaches that pregnancy confers upon the individual no immunity from typhoid fever. Upon the other hand, the course of this disease is commonly modified unfavorably, and the fever in turn exercises a distinctly prejudicial influence upon the course of gestation. The tendency to the interruption of pregnancy is more marked than in any of the acute infectious diseases, with the possible exceptions of small-pox and cholera. In about two-thirds of the cases collected by Kaminski, Zülzer, Scanzoni, and others, pregnancy was prematurely interrupted.

The chief causes of abortion or premature labor are to be found :

1. In the elevation of maternal temperature

causing death of the fœtus by isolation, or its premature expulsion by thermic irritation of the uterine musculature.

2. In the almost constant hæmorrhagic endometritis, illustrated by the specimen presented.

3. In the depression of the maternal blood-pressure with asphyxiation of the child.

4. Until within a recent period the transmission of the infection through the placenta from the mother to the child has been regarded as possible, but not demonstrable. Lately, however, Widal and Chantemesse have detected the bacillus, alleged to be characteristic of typhoid fever, in the blood of a fœtus corresponding to the fourth month.

The unfavorable influence of pregnancy upon typhoid fever lies especially in the tendency to abortion or premature labor at a time when the loss of blood and the muscular exertion necessary to effect the expulsion of the product of conception may precipitate the lethal issue from exhaustion. There is also increased risk of perforation.

DR. E. J. DOERING: I would like to have Dr. Jaggard tell us whether or no there are any statistics by American authors. I have had two cases, one last September, in which the fever lasted from three to four weeks, and in both of which pregnancy was not interrupted. One lady was in the sixth month of pregnancy, the other in the seventh month. The temperature in either did not exceed 104.5° F. It is my experience that these cases are liable to go through without interruption. Before the discussion is closed, it seems to me it would be well to have the experience of members present. They must have seen such cases, and I do not think we should let the subject go by without all the members stating their experience. In my last case I expected daily that the patient would miscarry, but to my surprise she went right along. That was quite a severe case. In the other case the fever did not go quite so high, but the last case was typical, and lasted fully four weeks. I not only thought she would miscarry, but had grave doubts as to her recovery. But to my surprise and pleasure she passed through safely, and returned to her home in Mobile some months later.

THE PRESIDENT: If my recollection serves me, I am satisfied I have seen several cases of pregnancy complicated with typhoid fever, and I am quite sure that every one of them miscarried where the pregnancy was early; in those in which the typhoid fever came on towards the later stages of pregnancy the patient not only miscarried, but lost her life as well. Of course I cannot now recall the exact number, nor the cases, but that is the recollection I have. It seems to me I have often heard doctors say that it is rather an impression among medical men, that if they have a case of typhoid fever in pregnancy it is likely to be followed by a miscarriage.

DR. JOHN BARTLETT: I recollect but one case. That was many years ago, in which a woman pregnant about four months, and in the third week of typhoid fever, doing quite well, was taken in abortion. She went through the process of labor satisfactorily, but died the next day.

DR. BAYARD HOLMES: The transmission of the bacillus of typhoid fever through the placenta is a matter worthy of consideration. We know that in certain cases of anthrax the foetus is not infected, although the mother's blood is full of the bacilli. After the birth of the living, healthy foetus at term, a sufficient period follows for the incubation of the disease, and then appears anthrax: first in the umbilicus, then general symptoms of anthrax septicæmia. In other cases, however, the foetus is infected with the anthrax *in utero*. In a paper that I presented to this Society some months ago, I held that the pyogenic infection of the foetus through the placenta was a comparatively rare occurrence. Since that time I have paid considerable attention to that subject, and I conclude that my statement should be limited. All cases in which infection of the foetus *in utero* has or has not taken place can be reconciled. In cases of sapremia with the presence of multiple known bacteria in the blood of the mother, those bacteria are all included in phagocytes. These phagocytes are sufficiently powerful to prevent the multiplication of the microbes, although they are not able to destroy them. This accounts for those typical cases of Bollinger, in which the foetus was not infected, although the blood in different parts of the body of the mother sheep contained the anthrax bacillus. Whenever, on the other hand, the sapremia has advanced to the condition of septicæmia, and the phagocytes have been overcome, and multiplication of the bacteria takes place at their expense, then embolism occurs in the peripheral arteries, that is to say, in the uterine wall, and the multiplication of the microbe follows at that point in close proximity to the foetal circulation. In this way they force themselves onward into the capillaries of the placenta, and the foetus is infected. In relapsing fever, and all cases of septicæmia, the infection of the foetus is the rule. Typhoid is a form of septicæmia, at least in the latter part of the first week. The symptoms of septicæmia are then present, viz.: capillary embolism in the skin forming hæmorrhagic spots, the characteristic rose spots of typhoid; ptomaine poisoning, which either raises or lowers the temperature; internal capillary embolism resulting in splenitis, pneumonitis, hepatitis, nephritis, and in cases of a pregnant patient, hæmorrhage in the distended capillaries of the decidua in close proximity to the placenta. At first it is simply a miliary hæmorrhage, but as the destruction of the capillary wall increases by coagulation necrosis, a considerable quantity of blood escapes between the placenta

and the uterine wall, and contractions of the uterus are initiated which ultimately expel the contents of the womb.

The case which Dr. Jaggard reports from Pennsylvania seems to me to be one of acute pemphigus (Denme), and due to a secondary mixed infection of the mother, and not directly to the typhoid disease. Pemphigus is a relatively frequent form of secondary infection in children, but in the adult its manifestations are so trivial that a diagnosis is difficult. On this account the mother who was primarily infected seemed to escape, while the non-resisting child suffered the terrible disfigurement of the disease.

DR. JAGGARD, in closing the discussion, said he was unable to find in the literature of the subject any statistics from American sources that related to the items touched on in his communication.

The rôle that elevation of maternal temperature plays in the causation of death of the foetus depends chiefly upon the rapidity with which the rise occurs, and the duration of the pyrexia. As pointed out by Doléris, Doré, Max Runge and others, if the elevation of maternal temperature occurs slowly, and if it be of brief duration, the foetus commonly escapes injury.

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR REGULAR CORRESPONDENT.)

A new Penny a Week Collection Scheme in Connection with the Hospital Saturday Fund—Recent Small-pox Epidemic at Sheffield—Case of Fractured Spine—The Hot Water Cure—Prize of £100, and a Gold Medal for the Best Essay on the Etiology and Prevention of Yellow Fever—Street Ambulance Organization for London, etc.

A new penny a week collection scheme in connection with the Hospital Saturday Fund is about being inaugurated. The scheme is to raise 500,000 pence weekly (£100,000 annually) and thus remove the debt from the London hospitals. In the various hospitals in London at the present time there are 2,637 unoccupied beds and quite 2,000 would be occupied if the funds were forthcoming. The promoters of this new movement invite the assistance alike of employers and employed in collecting subscriptions, which will be purely voluntary and limited to one penny a week.

The recent severe epidemic of small-pox at Sheffield forms the subject of an exhaustive report to the Local Government Board by Dr. Barry, who has accumulated an enormous mass of facts dealing with every aspect of the outbreak, its origin, its spread through the town, and the

influence of vaccination in preventing its further spread. The full magnitude of the outbreak is attributed by Dr. Barry to the spread of infection from the small-pox hospital to which the earlier cases were sent. Twenty-three maps of the most populous portions of the town are annexed to the report. Around the fever hospitals a number of rings are drawn at intervals of 1,000 feet. In the first two maps the cases are scattered indiscriminately about the town, but at an early period they showed signs of congregating around the hospital. This tendency soon became very marked. The hospital was the centre, as it were of the epidemic. As the months wore on the infection spread steadily over a wider area, the cases moving outwards from the hospital like waves on the surface of a pond from the centre of disturbance. There is no possibility of doubt, after an inspection of these maps, that in some way or another this hospital, situated close to the work-house, and on the edge of a very populous district served as a focus of infection. A few sporadic cases were taken there, and served as the centre from which the actual epidemic spread. During fourteen weeks, from May 21, to August 27, while the hospital was in full operation, the proportion of infected houses within a radius of 4,000 feet was seven times that in other parts of the town. Within 1,000 feet of the hospital the proportion was three times as great as in the next zone between one and two thousand feet away. This again was three times as severely scourged as the next zone, between two and three thousand feet, while that had twice as large a share of infected houses as the outermost zone at a distance of from three to four thousand feet. Even this outside zone had a proportion of infection double that of the rest of the town. At subsequent periods the distribution altered in consequence of the outward spread of the infection. During February and March, 1888, the operations at the hospital were lessened owing to the removal of all acute cases to another hospital. The result was at once a rapid falling off in the number of cases within the hospital area. Dr. Barry's report appears to show that a small-pox hospital is quite out of place in the centre of a populous district, and is a very great source of danger to the population which it is intended to protect.

The statistics of the attacks on vaccinated and on unvaccinated persons are of the utmost interest and importance. Thus while among every thousand unvaccinated children below 10 years of age there were 101 cases with a death-rate of 44, there were only five cases in every thousand of vaccinated children and a death-rate of .09. The contrast was equally marked among the children actually living in houses invaded by the disease. Thus while the rate for vaccinated was 78 with a death-rate of one, that of the unvaccinated was 869 with a death rate of 381. Among older per-

sons the contrast was not so great, but it was still decisive. The result may be shortly summed up by saying that a vaccinated child is 381 times less likely to die of small-pox than one who is unvaccinated, while among older people those once vaccinated were 51 times, and those twice vaccinated 640 times, less likely to a fatal attack of the disease than those who had never undergone the operation of vaccination.

Mr. Herbert Allingham lately had an interesting case of fractured spine under his care. The patient, æt. 31, was admitted into hospital having fallen 40 feet, causing a fracture. He was paralyzed from below the level of the ensiform cartilage. As he did not improve, in fact, seemed to lose ground, Mr. Allingham trephined the spine through an incision 10 inches long. It was seen that the lamina of the sixth vertebra was badly fractured and depressed. He therefore, with the bone forceps, snipped off the laminae and spinous processes of the fifth, sixth and seventh vertebrae, exposing the cord for about 4 inches. The operation took an hour and a half and the wound was dressed antiseptically. Healing had taken place in about ten days, and the symptoms of ascending changes checked. Some amount of improvement subsequently took place, the level of the paralysis being brought down to the umbilicus. Mr. Allingham considers that by timely trephining inflammatory ascending changes are prevented, that no bad symptoms follow the laying open of the spinal dura mater, and that the operation, although tedious, was not difficult, and does not lessen the chance of recovery.

There is quite an enthusiasm at present in London for the hot water cure. The victim of indigestion, eczema, headaches, palpitation, sleeplessness and other ills, imbibes a half-pint of very warm water night and morning, with finely minced beef for his food, and feels, it is said, restored to youthful vigor by the simple regimen. Many busy city men are stated to have received much benefit from the treatment.

A medical man near London has just met with a tragic death. His child was attacked with diphtheria and he found it necessary to perform tracheotomy, and it was in sucking the tube, which had become blocked, that Mr. C. I. Moore contracted the disease, which terminated fatally not only in his own case but in that of his child also.

The Parkes triennial prize of £100 and a gold medal for the best essay on the Etiology and Prevention of Yellow Fever, has just been awarded to Surgeon Firth of the Army Medical Staff. The subject for the next prize is "The Influence of Soil as a Factor in the Production of Disease, especially in Hot Climates." The competition is open to all medical officers of the army, navy and Indian services of executive rank on full pay.

A sufficient sum of money, £1,500 in all, has

been realized to cover the initial expenses and the cost of working for the first year of the excellent scheme of a street ambulance organization for London. The idea has been worked out by the Hospital Association, who have obtained a strong committee. It has been decided to invite the chief of the police and fire brigade to join the committee. Within two months it is hoped the system will be in working order.

Professor Virchow is stated to be busily engaged in rewriting his great work on Cellular Pathology. He expects to conclude his labors at a comparatively early date.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Relation of the Tubercle Bacillus to the Etiology of Phthisis—The Early Diagnosis and Prognosis of Phthisis—The Specific Nature of Phthisis—The Influence of the Microbe Theory on the Treatment of Phthisis.

At the first meeting in May, of the Academy of Medicine, Dr. W. B. James read a paper on *The Relation of the Tubercle Bacillus to the Etiology of Phthisis*. The result of the enormous number of original investigations which had been carried on since the discovery of the bacillus, in 1882, he said, had been to confirm the correctness of Koch's conclusions. It was also fairly well established now that the tuberculous process is capable of setting up inflammatory action in adjacent tissues which may be either acute or chronic in character. By pulmonary phthisis he understood a tuberculous inflammation of the lungs, and he therefore considered any secondary and contributing cause or causes as unnecessary. Clinical experience taught that different individuals respond very differently to the tuberculous infection, and also that the same individual responds differently to it at different times. In this connection he referred to the results obtained by Dr. Trudeau from exposing animals inoculated with tuberculous virus to different kinds of environment. In the dead-house of the New York Hospital, he said, he had been struck with the large number of individuals whose lungs presented lesions which showed that they had at one time been the subjects of phthisis and had recovered from it. Whether or not any previous lesion of the lungs was necessary for the development of tuberculosis he did not think was established. The sum of clinical experience seemed to indicate that tuberculosis develops more readily when there has been such a previous lesion; but that in many instances there is no previous lesion whatever. The conditions on which tuberculous infection in any given case appeared

to depend were, first, the number of the germs, and, second, the condition of the germs. Other things being equal, therefore, the larger the number of bacilli and the greater the activity of the virus, the stronger would be the chance of infection. Having referred to the question of the channel of infection, he said, in summing up, that the only factor necessary for the production of pulmonary phthisis was the bacillus tuberculosis or its spores.

One of the most positive and terse communications of the evening was the paper of Dr. J. West Roosevelt, on *The Relation of the Tubercle Bacillus to the Early Diagnosis and Prognosis of Phthisis*. In opening he spoke of the difficulties in the way of diagnosis which many cases presented, the responsibility of the physician, and the irreparable injury which might be done to a young man's prospects in life by the enunciation of a wrong opinion. If the bacillus were found in the sputum, all doubts would, of course, be removed. But suppose we do not find the bacillus, he went on to say, can we assert that phthisis does not exist? Decidedly not. It must be remembered that in phthisis we often have no tubercle which is so situated as to be connected with the air-passages, and it is quite possible for extensive tuberculous deposit to occur, and yet no bacilli be discharged. It is also possible for so much bronchial discharge to exist that the bacillus may be overlooked in the large quantity of expectoration. No one would, therefore, deny the existence of phthisis because the bacillus could not be found. Even though very many careful examinations be made and no bacilli be discovered, this evidence against the diagnosis of phthisis is slight; though, of course, the presence of bacilli would render such a diagnosis positive.

As seen in New York, he said, there were a number of cases of phthisis in which the lesion, until near the end, seemed to consist of the deposit of tubercles beginning in the upper lobes and gradually spreading and involving the lower. There were also some pleurisy and some bronchitis. Now, in these cases there was not much tendency for the tubercles to break down early in the disease. There being practically no pulmonary consolidation (nothing at first but a few scattered tubercular nodules), the physical signs were of little value. It was possible for this form of phthisis to progress very far and yet give no distinctive signs. Unfortunately, for the reason that scattered tubercles constituted the lesion and that these did not break down early and empty their bacilli into the bronchial secretion, the detection of the bacilli was frequently impossible at the very time when this would be of most value.

In another form of phthisis, together with the tubercle deposit, we had pneumonia, coagulation necrosis, marked bronchitis, etc., and practically this form, owing to the pulmonary consolidation,

gave signs earlier than the others. It also broke down over a greater extent of the lungs, and bacilli were frequently and abundantly discharged. It might be said that those cases presenting the greatest difficulties for diagnosis, not regarding the bacillus, presented also the greatest difficulties in finding the bacillus. In many of them it was not to be found at all, and the diagnosis had to be made from the physical signs.

As to the prognostic value of the bacillus, he thought it could hardly be said to have any. Patients going rapidly down hill would be found whose expectoration contained but few bacilli, and, on the other hand, large numbers of these might be found in the sputum of those whose disease was advancing but slowly, if at all. It was simply a question of the freedom with which cheesy matter was emptied into the bronchi. Strangely enough, there was a decided tendency for many to regard the bacilli discharged as a measure of the disease; as if they, and not the bacilli growing in the patient, did the harm. Hence we read of "diminution in the number of the bacilli" under varied treatments as a symptom of improvement. It might or might not be such a symptom. At best it was a most delusive one.

Watching for it, and laying stress upon it, he believed had done one great harm. It had given a longer life to the various so-called antiseptic methods of treatment; the word antiseptic being, here used, of course, as meaning destruction to bacillary life. "A strong solution of carbolic acid kills bacilli after some hours; therefore give very small doses of that agent (doses so small as to be, when diluted with a bulk of fluid equal to that of the blood, entirely harmless to the microbes), and thus cure phthisis." This was the real basis of reasoning for all such treatment; and how often had we heard in regard to each of the new antiseptic methods that "the cough, expectorations, and night-sweats improved, and the bacilli were reduced in numbers." To this should usually be added: "The patient died." Now the fact that the bacilli vary greatly in numbers from time to time had added somewhat to the apparent value of many different kinds of treatment. The time has come, he thought, for a protest to be made against the administration of poisons to unfortunate people in the so-called antiseptic treatment of phthisis. To do this, and to call the methods by which the particular poisons had so far been chosen, "scientific," was possibly to injure the patient, but certainly to exhibit a peculiar idea of what constitutes science. He explained that he would not for a moment be understood as objecting to the trial of any non-injurious treatment for phthisis; but he certainly did wish to protest against the giving of antiseptics tested as now, and calling it rational. While the complex body-cells were easier to kill than the more sim-

ply constructed bacilli, it did not seem very encouraging to try to kill the latter and yet leave the former untouched. It was probable that nourishing the phagocytes was better than trying to kill the bacilli. It was possible that empirically something may be found capable of acting as a specific bacillary poison, but no evidence had yet presented that such a substance exists, nor was it likely to be obtained by the present crude methods.

Dr. Roosevelt's conclusions were as follows:

1. The bacillus tuberculosis is of great positive value, but no negative value, in diagnosis.
2. In prognosis the bacillus is of but little value.
3. In both diagnosis and prognosis quite as much depends upon the careful study of the case as a whole as if there were no bacilli concerned in the production of the disease, except that a diagnosis is sometimes rendered positive, which would otherwise be doubtful, by finding the bacillus.

Prof. James Tyson, of the University of Pennsylvania, who had been invited to take part in the discussion, dwelt for some time on the difficulties which had attended the indisputable establishment of the proposition that the bacillus is the essential and only cause of tuberculosis. He then went on to say that attention could now be directed most profitably to the corollaries which grew out of this causal relation, and that the first evident deduction was that tuberculosis must be contagious. The contagiousness was so comparatively slight, however, that some explanation seemed necessary, and this explanation, he thought, would be found in the mode of dissemination, as shown by some recent observations of Cornet. This observer inoculated animals with sponge-scrapings from the walls of rooms occupied by phthisical patients. Large numbers of animals thus inoculated were found to be tuberculous, while the control experiments, made with sponge-scrapings from houses not inhabited by tuberculous patients, gave negative results. In no case was the dust of the walls infectious where sputum-cups were exclusively used to receive the expectorated matter, although such sputum abounded in bacilli. We thus learned that it is through the dried sputum whose bacillus-containing particles are disseminated in the air that the disease is spread; as was, indeed, originally suggested by Koch. Tuberculosis might be characterized as feebly or slightly contagious in the same way and for the same reason that typhoid fever was slightly contagious; because ordinarily the excreta are promptly removed, even if not disinfected, and it is only when they dry upon the linen, and thence become scattered through the air, that they enter the lungs or alimentary canal.

The same conditions also which intensified the contagion of the diseases long acknowledged to be contagious increased the operation of that of

phthisis. Thus, for instance, the disease was most frequent where people were crowded together, as in prisons, etc. Married people infected each other, and the members of healthy families might become infected one after another after removal to a house previously occupied by a tuberculous patient. In the same direction he pointed out some most valuable and laborious observations by Dr. Lawrence L. Flick, of Philadelphia, illustrated by a series of maps locating every death from tuberculosis in a single ward for twenty-five years, in which he showed that of the infected houses scarcely 10 per cent. are isolated—that is, have not an infected house next to them. About 23 per cent. of the infected houses, moreover, had had more than one case. Finally, through diagrams showing the distribution of small-pox, typhoid fever, diphtheria and scarlet fever, he showed that the groupings of phthisis are identical with those of contagious diseases.

In referring to the subject of the communication of tuberculosis through the alimentary canal he stated that while the general expression of the Paris Congress for the Study of Tuberculosis, held in 1888, was against the use of tubercular flesh, and especially tubercular milk, no absolute demonstration of the harmful effects of meat from tuberculous cattle seems to have been presented. Cagny, however, related a case in which tuberculous disease was caused in chickens by eating the sputa of a phthisical patient. In like manner, Mosler had reported the case of a patient who swallowed his own sputum in large quantities. Ten days after his first attack of cough diarrhoea and colic set in, and ten days later he died. The autopsy revealed tuberculosis of the lungs and intestine, but nowhere else in the body; and hence Mosler was inclined to refer tuberculosis of the intestine to swallowed sputum rather than to general infection, although he failed to produce intestinal tuberculosis in animals by feeding them with tuberculous sputum and lung tubercle.

Having referred to the possible transmission of tuberculosis by flies, as indicated by the observations of Spellman, Haushalter, and E. H. Hoffman, Dr. Tyson went on to say that the relation of the bacillus to heredity had as yet failed of a satisfactory explanation, and more particularly as regards congenital tuberculosis. The most probable explanation of the latter, he thought, was that it is passed from the blood of the mother to that of the fœtus through the placenta. Such transfer, however, presupposed, of course, the presence of bacilli in the blood of the mother; and while Weichselbaum had succeeded in demonstrating tubercle bacilli in the blood, it had been very frequent. It had to be admitted, too, that although Landouzy and Martin have obtained positive results after the inoculation of animals with the placenta of phthisical patients, no tubercle bacilli were found in the products;

which might therefore have been pseudo-tuberculosis.

Another important corollary, he said, related to the tenacity of the life of the bacillus. Cadere and Mallet found that tuberculous matter, when dried and pulverized, is capable of transmitting tuberculosis 102 days after such preparation; but they concluded that virulence does not persist after from 30 to 70 days, unless special care is taken to preserve it. Schule and Fisher claimed that tuberculous matter may remain active at least six months, while Pietro asserted that well dried sputum may retain infectious properties for nine or ten months at a mean temperature of 77° F.

Dr. H. M. Biggs, of the Carnegie Laboratory, presented the specific nature of phthisis in a very clear and forcible manner. No fact in medicine, with the possible exception of the essential cause of anthrax, he said, was better established than the causal relation of the bacillus of Koch to tuberculosis. The evidence, he believed, answered very nearly indeed to the exactness of mathematical demonstration, and it seemed to him that the profession could not too soon do away with the notion, held by many even yet, that heredity and other causes were prime factors in the etiology of phthisis. There was one, and only one cause, and that was the tubercle bacillus. That these other factors had an influence no one could deny, but the effect of the was simply to reduce the normal power of resistance in the tissues. In order that infection should result it was necessary that a dose of bacilli should be taken into the system and that these should have the effect of overcoming the tissue resistance. Depressed vitality from any cause and antecedent pathological processes existing in the lungs would naturally facilitate this action of the bacilli.

He considered that the tubercle bacilli are capable of causing the disease without the assistance of any other factor, provided that a sufficiently large number of them are admitted to the system. Heredity meant, then, he said, not the transmission of a predisposition to tuberculosis, but that tuberculous parents transmit to their offspring organs which are easily acted on by such agents as the tubercle bacillus; in other words, organs which have a less resisting power than those of robust individuals. In such organs there was simply an absence of strength, and not the positive possession of unfavorable qualities. If these points were accepted, he said it followed, first, that phthisis pulmonalis is distinctly contagious; and secondly, that it is a distinctly preventable disease.

The great question that lay before us, therefore, was the prevention of tuberculosis, and he thought that, in trying to solve this problem, we could not too strongly insist upon the origin of the disease from a single cause. In the work of prevention all discharges from tuberculous patients should be

disinfected, and all tuberculous animals should be destroyed; and we could only hope to carry out such a work by educating the profession and the public in this belief that the disease is due to a single cause. Whenever tuberculosis occurred in animal or man, the fact ought to be distinctly recognized that it was invariably the result of tubercular disease existing in some antecedent case.

Dr. H. P. Loomis followed Dr. Biggs, and in the course of his remarks he stated that he had found that in no less than 60 per cent. of all patients dying at Bellevue Hospital there were old tubercular changes in the lungs; the disease having been recovered from. After the meeting one of the physicians present remarked that if this statement were true it would be a great deal better if those suffering from tuberculosis should pay no attention to the disease and not seek medical advice, since statistics showed that of all tuberculous patients who came under treatment only 10 per cent. recovered.

Dr. Trudeau, of Saranac Lake, in the Adirondack Mountains, who exhibited some interesting specimens, stated that he had found it possible to produce in animals any kind of phthisis that was known in the human subject by properly regulating, first, the quantity of virus employed; second, the site of inoculation; and third, the environment of the animal. Acute miliary tuberculosis, for instance, could be caused by inoculating the vein of the ear. The animal would die of the infectious disease in about twenty-five days, and an examination would show the presence of tubercles everywhere in the body. By injecting the virus into the apex of the lung, a condition would be produced in which fibrous tissue would be found to predominate over the tubercular.

Dr. W. H. Thomson read a paper on *The Influence of the Microbe Theory on the Treatment of Phthisis*, in which he said that he had never expected any specific treatment to be of permanent value in phthisis on account of the organic nature of the tubercle bacillus. As illustrating this, he said he had never seen a case of small-pox, measles, or other specific disease that was shortened a single day by the administration of an antiseptic or any other agent whatever. He did not know of anything that the farmer could use that would kill the weeds, but not the potatoes, in his field; and in like manner we could not expect to find any agent that would kill the tubercle bacillus in the body, and yet not do injury.

But, at the same time, he thought that Koch's great discovery would not be barren of practical results. Having spoken of the apparent interdependence of bacterial growths upon each other, he referred to the wide prevalence of the streptococcus pyogenes, and said that it had seemed to him that this organism might perhaps pave the way, as it were, for the tubercle bacillus, which without its aid possibly would not find a suitable soil

for its development. If this were so, he thought it was of the greatest importance, first, to check all suppurative processes in the lungs; second, to remove the pus; and third, to prevent putrefaction of pus. One of the best agents against supuration was creosote, and it might be employed both internally and by inhalation. He related two cases of phthisis with well-marked cavities in which permanent recovery followed the use of creosote, and said that while he had, of course, met with many cases in which this remedy did no good, he believed that, on the whole, it was of more efficacy than any other. One important indication was to cause, as far as possible, a limitation of the tuberculous process by promoting the power of resistance in the tissues.

Dr. B. F. Westbrook, of Brooklyn, thought that as a rule a skillful examiner could make the diagnosis of phthisis in any case where the microscopist could do so by means of the sputum. In cases of pleurisy at the apex of the lung, however, where it was not known whether tuberculosis originally existed or not, he believed the examination of the sputum would often prove of diagnostic value. A few cases were also met with in which patients with weak chests have some crackling at the apex which may be due either to tuberculosis trouble or to emphysema; and here, too, he thought the presence or absence of the bacilli might be of considerable value. As to the matter of prognosis, if in any case repeated examinations failed to reveal the presence of bacilli in the sputum, he said he would conclude that there was no tuberculosis present, and that the trouble was probably due to chronic interstitial pneumonia. The mere numerical quantity of bacilli found in any case was, in his opinion, of no value.

As regards the matter of treatment, he believed that the only influence which the discovery of Koch had thus far had upon this was pernicious, since it had resulted in the introduction of all sorts of mischievous methods. There could be no specific treatment unless we could discover a specific antidote. Antiseptic agents, however, might be of great service in the treatment of fetid bronchitis, in cleansing and disinfecting cavities and the bronchial tubes, and in fortifying the constitution of the patient.

Dr. F. P. Kinnicutt, who closed the discussion, said that some of the antiseptic remedies had an undoubted value in removing foci of irritation and rendering the tissue in a measure aseptic. They arrested fermentation and had a stimulating effect upon the vital processes; and it was no doubt to such effects that the benefit observed from the use of creosote was due.

In the recent centennial celebration in this city the New York County Medical Association was officially represented by its president, Dr. Charles S. Wood, who acted as one of the aids to Gen.

Daniel Butterfield, chief marshal of the great civic parade on May 1. When the head of the procession reached Madison Square it was halted, and the chosen representatives of about a hundred societies of various kinds, of which the Association was one, marched from their rendezvous near by and preceded the column in passing President Harrison. On arriving in front of the reviewing stand they were drawn up in line before it, and Mayor Grant presented to the President in the name and behalf of the civic, industrial, benevolent and educational organizations there represented, an address engraved upon parchment and inclosed in a beautiful silver box. Upon the address was inscribed the date of the organization and incorporation, the purposes and the signature of the president of each society. The delegates then passed to seats especially reserved for them on the grand stand, south of the President, and assisted in reviewing the parade. The Executive committee of the County Association has ordered that the handsome insignia worn by Dr. Wood on this occasion shall be framed and carefully preserved as a memorial of its participation in the centennial celebration.

P. B. P.

BOOK REVIEWS.

MEDICAL AND SURGICAL MONOGRAPHS. May Number. New York: Wm. Wood & Co.

There is published in the May number two monographs: The first upon "The Preventive Treatment of Calculous Disease and the Use of Solvent Remedies," by Sir Henry Thompson, F.R.C.S., M.B. The author states that we have the power to check the production of calculous matter at almost any stage of the complaint, and can almost certainly render its formation impossible if proper treatment be adopted. The dietetic treatment, upon which success largely depends, and the value of mineral waters are then fully discussed. The best, however, that modern science has done toward the solution of uric acid concretions, which are the basis of more than 90 per cent. of all calculi, is founded upon the use of potassium carbonate and the author unites with Sir William Roberts in agreeing that this is the most powerful solvent known, much better than either salts of sodium or lithium. Finally, it is necessary to admit that no evidence has yet been produced that the complete solution of a stone in the bladder has been effected by any alkaline agent whatever. The probabilities are in favor of the solution of small stones, but if large their solution is quite impossible.

The remainder of the volume, in fact, its greater portion, is devoted to "Sprains and their Consequences," by C. W. Mansell Moullin, M.A.,

M.D., F.R.C.S. The subject is very fully dealt with in some sixteen chapters, and the treatment is given in elaborate detail. The importance of the subject and the able treatment it has received in the hands of the author serve to recommend it.

THE INSANE IN FOREIGN COUNTRIES. By WILLIAM P. LETCHWORTH, President of the New York State Board of Charities. New York and London: G. P. Putnam's Sons. 1889.

This is a large octavo volume of 374 pages, containing numerous and valuable illustrations. The author spent seven months in diligent personal examination of the various kinds of provision made for the insane poor in England, Scotland, Ireland, Sweden, Denmark, France, Germany and other Continental countries, and has given the results of his investigations in this volume, preceded by a very interesting retrospective introductory chapter. Every person interested in the welfare of the insane poor, and the provisions made for their protection and support in different countries, will find this a most interesting and valuable volume; and equally so whether such person be a physician or not.

MISCELLANY.

SCIENTIFIC USES OF THE EIFFEL TOWER.—M. Janssen, of the Institute of France, is of opinion that the Eiffel Tower will have many scientific uses. One of the greatest difficulties of meteorological observations is the disturbing influences of the station of observation itself. How, for example, can a true deviation of the wind be observed if a purely local obstacle causes it to deviate? And how can a true temperature of the air be determined by a thermometer influenced by radiation from surrounding objects? Thus, the meteorological elements of great centers of habitation have to be taken outside those centers, and at a certain height above the soil. The Tower, since it rises to a great height, and from the nature of its construction does not modify in any way the meteorological elements to be observed, will get over this difficulty. A height of 300 yards is in itself not negligible quantity from the point of view of rainfall, temperature, and pressure, but these circumstances give all the more interest to the institution of comparative experiments on variations due to altitude; the electrical interchanges between the soil and the atmosphere can also be studied to advantage. Special arrangements can be made for avoiding accidents, and results of great interest should be obtained. M. Janssen recommends also the institution of a service of meteorological photography. A good series of photographs would give forms, movements, modifications which the clouds and atmospheric conditions undergo from sunrise to sunset. Thus a history of the skies would be written on a radius not hitherto dealt with. In physical astronomy various other observations might be taken, especially in relation to the study of telluric spectrum. M. Eiffel announces that three laboratories have already been arranged on the Tower. One will be devoted to astronomy, and the second will contain registering apparatus from the central bureau of meteorology, and will be devoted to physics and meteorology. MM. Mascart and Cornu expect to draw great advantages from its use in the study of the atmosphere. The second is

reserved for biology and micrographic study of the air, to be organized by M. Henocque. M. Cailletet is arranging a great mercurial monometer, with which he expects to obtain pressure as high as 400 atmospheres.—*British Medical Journal*.

MCLEAN COUNTY MEDICAL SOCIETY.—The regular monthly meeting of the McLean County Medical Society was held at the office of Drs. Darragh & Corley, on Monday, May 6th, at 2:30 P.M. There were present, Drs. Rhoda Galloway, C. F. Vandervoort, M. D. Hull, E. P. G. Holderness, N. F. Jordan, J. L. White, Wm. Hill, A. T. Darragh, H. Parkhurst, C. J. Corley, Secretary, G. M. Smith, S. T. Anderson, F. J. Parkhurst, C. Reedy, E. Mammen, F. J. Welch and L. A. Burr.

Dr. J. L. White, one of the Committee who went to Springfield in the interest of the Medical Practice Act, stated that in his opinion the majority of the Legislature were in favor of the above Act, and, furthermore, there was not the least danger of the section being stricken out.

Dr. Darragh reported a case of a young lady attending school in Indiana who had malignant scarlatina and when she was convalescing wrote home, and in a few days after some of the family were stricken with the above disease, supposed to have been produced by the letter paper. The following were appointed delegates to the State Medical Society meeting at Jacksonville, Ill.: Drs. F. J. Parkhurst and E. Mammen. To the American Medical Association meeting at Newport, R. I., Drs. Hull and Covey. Dr. Anderson then read an essay on "The Quinine Hobby." It was a witty and interesting one and received an attentive listening from all present.

LETTERS RECEIVED.

Dr. J. H. Etheridge, Chicago; Dr. John Barney, Dunkirk, N. Y.; Dr. C. M. Daniels, Buffalo, N. Y.; C. C. Purington, Boone, Ia.; Dr. J. S. Dorsey-Cullen, Richmond, Va.; Dr. W. H. Dunlop, Syracuse, N. Y.; W. F. Snorgrass, Excelsior, Mo.; J. A. T. Bernays, Minneapolis, Minn.; Dr. A. F. A. King, Washington; J. H. Bates, New York; Dr. Stanford E. Chaillé, New Orleans, La.; A. E. Walesby, Louisville, Ky.; Dauchy & Co., New York; W. P. Cleary, New York; I. Haldenstein, New York; Dr. J. H. Eldredge, East Greenwich, R. I.; Dr. W. D. De Long, Pikesville, Pa.; Dr. C. C. Fite, Knoxville, Tenn.; Dr. J. M. Dunham, Columbus, O.; Dr. Arthur J. Hall, Washington; Dr. J. V. Schofield, Harris City, Ind.; Dr. C. H. Franklin, Union Springs, Ala.; Dr. R. A. Kinloch, Charleston, S. C.; B. Pulskamp, Washington; Dr. T. E. Potter, St. Joseph, Mo.; M. Brewer, Monmouth, Ill.; Dr. J. G. Weaver, Strasburg, Pa.; Lea Bros. & Co., Philadelphia; T. A. McKinnill, Washington; Dr. F. Dowling, Cincinnati; Dr. E. P. Sale, Memphis, Tenn.; Nugent, Brown & Co., Fargo, Dak.; Dr. Willis G. Tucker, Albany, N. Y.; Dr. C. P. Thayer, Boston, Mass.; Dr. C. Thompson, New York; Dr. K. von Ruck, Asheville, N. C.; Dr. A. L. Hummel, Philadelphia; Dr. Geo. F. Cook, Oxford, O.; Dr. Samuel N. Nelson, Boston; Canton Surgical and Dental Chair Co., Canton, O.; Emma B. Orcutt, Hardwick, Mass.; Dr. E. J. Sherron, Sing Sing, N. Y.; Dr. C. E. McClary, Syracuse, N. Y.; Dr. Frank Billings, Chicago; Dr. C. Brown, Adrian, Ill.; Dr. W. H. Forbes, Richmond Hill, N. Y.; Dr. Wm. E. Quine, Dr. Chas. T. Parkes, Dr. W. E. Casselberry, Chicago; Dr. Robt. T. Edes, Washington; Dr. Joseph Eastman, Indianapolis; J. T. Petty, Washington; Dr. J. S. Riggs, Redland, Cal.; Dr. W. Franklin Coleman, Chicago.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 1, 1889, to May 10, 1889.

By direction of the acting Secretary of War, Capt. F. C.

Ainsworth, Asst. Surgeon U. S. Army, will proceed to Albany, N. Y., on business connected with the Medical Department. Par. 7, S. O. 105, A. G. O., May 7, 1889.

Capt. Walter W. R. Fisher, Asst. Surgeon U. S. Army, is hereby granted leave of absence for one month. Par. 1, S. O. 30, Hdqrs. Dept. of California, San Francisco, Cal., April 21, 1889.

Capt. D. M. Appel, Asst. Surgeon, relieved from duty at Fort Sill, Ind. Ter., and ordered to Ft. Bliss, Tex.

Capt. S. G. Cowdrey, Asst. Surgeon, relieved from duty at Ft. Bliss, Tex., and ordered to Ft. Marcy, N. M.

Capt. Jas. A. Finley, Asst. Surgeon, relieved from duty at Ft. Assiniboine, M. T., and ordered to Ft. Totten, Dak.

Capt. Aug. A. DeLoffre, Asst. Surgeon, relieved from duty at Ft. Totten, Dak., and ordered to Columbus Bks., O.

Capt. B. D. Taylor, Asst. Surgeon, relieved from duty at Columbus Bks., O., and ordered to Ft. Sill, I. T. Par. 25, S. O. 104, A. G. O., Washington, May 6, 1889.

By direction of the acting Secretary of War, First Lieut. William P. Kendall, Asst. Surgeon, will be relieved from duty in the Dept. of California, after he shall have complied with the requirements of par. 2, S. O. 29, A. G. O., April 24, 1889, from these headquarters, and will then proceed to Ft. D. A. Russell, Wyo., for duty at that station. Par. 28, S. O. 104, A. G. O., May 6, 1889.

By direction of the Secretary of War, Capt. Paul R. Brown, Asst. Surgeon, is relieved from further duty in the Dept. of the Platte, and will proceed to Ft. Thomas, Ariz., and report in person to the commanding officer of that post for duty, and by letter to the commanding officer Dept. of Ariz. Par. 10, S. O. 105, A. G. O., May 7, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 11, 1889.

Medical Inspector Grove S. Beardsley, detached from the "Brooklyn," proceed home and wait orders.

P. A. Surgeon P. A. Lovering, detached from the "Brooklyn," proceed home and wait orders.

Asst. Surgeon Oliver D. Norton, detached from the "Brooklyn," proceed home and wait orders.

Surgeon J. A. Hawke, detached from the "Essex," proceed home and wait orders.

Asst. Surgeon C. F. Stokes, detached from the "Minnesota" and to the "Iroquois."

Surgeon John F. Bransford, orders to the "Iroquois" revoked, resignation accepted, to take effect May 4, 1890, with leave of absence granted to that date, with permission to leave the United States.

STATE MEDICAL ASSOCIATION MEETINGS IN 1889.

STATE.	SECRETARY'S NAME AND ADDRESS.	TIME AND PLACE.
Arkansas	L. P. Gibson, Little Rock.	Pine Bluff, May 28.
Colorado	H. W. McLaughlin, Denver.	Denver, June 18.
Connecticut	N. E. Wordin, Bridgeport.	Hartford, May 22.
Dakota	H. E. McCurt, Aberdeen.	Mitchell, June 20.
Delaware	J. E. Ellegood, Laurel.	Dover, June 11.
Illinois	D. W. Graham, Chicago.	Jacksonville, May 21.
Indiana	E. S. Elder, Indianapolis.	Indianapolis, May 21.
Maine	C. D. Smith, Portland.	Portland, June 11.
Massachusetts	F. W. Goss, Boston.	Boston, June 11.
Minnesota	C. B. Wetherle, St. Paul.	Minneapolis, June 20.
Missouri	J. C. Mulhall, St. Louis.	Springfield, May 21.
Nebraska	A. S. v. Mansfeld, Ashland.	Kearney, May 21.
New Hampshire	G. P. Conn, Concord.	Concord, June 18.
New Jersey	Wm. Pierson, Orange.	Spring Lake, June 4.
New York	E. D. Ferguson, Troy.	New York, Sept. 25.
Ohio	G. A. Collamore, Toledo.	Youngstown, May 22.
Oregon	C. C. Strong, Portland.	Portland, June 11.
Pennsylvania	W. B. Atkinson, Philadelphia.	Pittsburgh, June 4.
Rhode Island	G. D. Hershey, Providence.	Providence, June 13.
Vermont	H. C. Hawley, Burlington.	Brattleboro, June 27.
Virginia	L. B. Edwards, Richmond.	Burlington, Oct. 10.
West Virginia	J. I. Fullerton, Charleston.	Roanoke, Aug. or Sept.
		W. Sulphur Springs.

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LECTURES.

DUODENAL AND GASTRIC ULCERS.

A Clinical Lecture delivered at the Hospital of the University of Pennsylvania.

BY WILLIAM PEPPER, M.D., LL.D.,

PROVOST AND PROFESSOR OF THE THEORY AND PRACTICE OF
MEDICINE, UNIVERSITY OF PENNSYLVANIA.

I cannot altogether agree with those who think that, as regards the frequency of gastric ulcer, it is much more often suspected when it does not exist, than overlooked when actually present. But all are agreed as to the rarity of duodenal ulcers. Of this latter, it is doubtful if more than 70 authenticated cases are on record; while gastric ulcers, either cicatrized or open, are found in about 5 per cent. of persons dying from all causes. It may be very difficult to decide whether an ulcer which is believed to exist is gastric or duodenal in position. And this fact, coupled with the frequency of these ulcers, their dangerous character, and the great importance of proper treatment, leads me to report to you some recent cases.

It is true that you can diagnose gastric ulcer with confidence in cases attended with characteristic paroxysmal circumscribed epigastric pains extending through the back, coming on after eating, and disappearing only when the stomach is emptied by vomiting; with localized tenderness; with frequent vomiting, hyperacidity of the contents of the stomach, and with recurring hæmorrhages of bright blood in varying amount, with or without bloody discharges from the bowels. But it must be remembered that such ulcers may be latent and cause only slight, if any, symptoms until sudden and, as I have more than once seen, immediately fatal hæmorrhage, or else sudden perforation occurs. Or, indeed, the ulcer may be unexpectedly found at the autopsy of a case in which no significant symptoms had been present. Many cases are on record illustrating these statements. The same may be said of the duodenal ulcer; and I am reminded of the following case, which I saw but once, as it was sent to me, in 1881, by Dr. W. K. Hull, of Williamsport, for examination.

Case 1.—Duodenal Ulcer; Obscure Symptoms, Death from Perforation and General Peritonitis.

Mr. A. G., æt. 43, a dry-goods merchant of excellent personal habits, had for six years been complaining of occasional attacks of indigestion and pain (not of much severity) over the right side of the abdomen. His general health had not suffered much, though he had lost flesh moderately. His height was 5 ft. 9 in.; his weight 126 lbs.; he was of a light, spare build. He knew of no cause for his trouble, which I regarded as duodenal catarrh with hepatic congestion. He had never suffered a burn of any severity; nor any injury to that part of his body. He had been in the habit of eating rapidly without properly chewing the food. He took frequent Turkish baths, but only since the appearance of symptoms. He had never had jaundice. The urine was at times dark, but when I examined him it contained neither albumen nor sugar. There was no vomiting; no intestinal hæmorrhage; no local tenderness. The appetite was rather craving; the tongue but slightly coated; the bowels sluggish; the area of liver dulness slightly enlarged. The lungs and heart were normal; there was no marked atheroma of the superficial arteries.

I recommended the abandonment of Turkish baths; the constant use of a flannel belt around the body; a carefully restricted diet; and alternate courses of nitrate of silver and of iron, with belladonna and quinine.

I saw him on January 22. I heard from him in ten days that he was doing very well. On February 12, after a short and gentle ride on horseback, he was seized with atrocious pain in the upper part of the abdomen, followed by immediate collapse and rapidly fatal general peritonitis. The autopsy revealed an ulcer of the duodenum, which had perforated. It was seated on the anterior wall of the horizontal portion, about an inch from the pylorus. It was $\frac{3}{8}$ inch in diameter, with sharp punched-out edges. There was no ulcer in the stomach.

I fear that it must be admitted that in this case it was impossible to make a correct diagnosis, as all the symptoms seemed adequately explained by the duodenal catarrh.

The next two cases I shall report were attended, on the other hand, with marked and alarming symptoms. They are specially interesting from their severity; from some unusual features; from the illustration they afford of the differential diagnosis of gastric and duodenal ulcer; and from their termination in recovery.

Case 2.—Gastric Ulcer; Gastralgie Pains; frequent Vomiting; Hemorrhage; Septic Parotitis; Recovery after Desperate Illness.

Mrs. X., æt. 39, was seen in consultation with Dr. T. V. Crandall. She had been suffering for many months with uterine trouble, and had been subjected to an operation for laceration of the cervix, following which there was a prolonged state of poor nutrition and neurasthenia. Her vitality and circulation were greatly depressed. She then suffered for three months from severe paroxysms of pain of gastralgie character, recurring frequently and irregularly. There was no vomiting, but progressive decrease in power of taking and digesting food, with quite rapid loss of flesh and color. There was also tenderness over the stomach. At the close of this time vomiting began, and almost at once became very frequent and proved uncontrollable by ordinary remedies. I saw her at this time. She was immediately put to bed, upon an absolute milk diet, with repeated small blisters over the stomach, and with minute doses of nitrate of silver internally. Rectal enemas were used from the first. The vomiting was not, however, controlled either by the silver nitrate, or by any other remedy that was used; opium by the rectum was required to relieve pain and to secure rest, but it produced no good effect upon the vomiting. It was also necessary to use hypodermic injections of morphia and atropia quite frequently. The tongue became parched and brown and deeply fissured; the anæmia grew intense, and there was occasionally oozing of blood from the nose, and from the gums. Vomiting of small quantities of bright, fresh blood occurred repeatedly. At the close of ten days slight febrile action set up, the temperature rising to about 101° at night. She became so emaciated and exhausted, that it seemed that death was imminent. She was then attacked with parotitis, undoubtedly septic in character, first upon one side and then upon the other. Fortunately this ended in resolution. All internal medication was abandoned, and for many days no attempt was made to administer food by the month. She was anointed assiduously with sweet oil, and for four weeks was maintained exclusively by rectal enemas. Veratria ointment was used externally, in conjunction with morphia hypodermically, and opium by the rectum to control suffering. Despite her desperate condition she began to im-

prove; vomiting grew less frequent, and blood ceased to be ejected. The fever subsided. As resolution of the parotitis advanced, she became able to bear teaspoonful doses of skim milk. This was cautiously increased, and she was kept upon an absolute milk diet for about three months. She was then able to be lifted from bed, and moved carefully to the seashore. After seven weeks of illness, recovery was complete, but was marked by protracted and obstinate constipation with troublesome rectal fissure.

Case 3.—Ulcer, Probably Duodenal; Gastralgie Pains; Persistent Vomiting; Severe Repeated Hemorrhages altogether Intestinal; Circumscribed Tumor; Recovery after Desperate Illness.

Mrs. P., æt. 38. Was seen in consultation with Dr. H. A. M. Smith, of Gloucester City, N. J. She had enjoyed general good health, but during the autumn of 1888, had been overtaxed and worried greatly in connection with business affairs. She was attacked December 14, with severe gastralgie pain, which recurred regularly every afternoon at about the same hour. Vomiting began on December 29, and at once became frequent and was attended with marked exhaustion, so that she took to bed on January 1, 1889. In spite of various remedies and careful regulation of diet, the vomiting persisted. It presented itself rather as a frequent raising of small quantities of dark colored mucus, which at times had a purulent appearance. There were rapidly progressive emaciation, weakness and anæmia. On February 5 she had a large hæmorrhage from the intestine. The blood was dark, but not offensive. This caused extreme debility. Between that date and February 14, there was continued discharge of blood from the bowel, including six large hæmorrhages. There was not a single drop of blood vomited.

I saw her first on February 5. She was profoundly anæmic, and partially collapsed. During the ensuing ten days it seemed scarcely possible that she should survive. Examination showed tenderness to the right of the median line, and there was a distinct circumscribed induration below the lower edge of the right ribs, corresponding to the position of the duodenum. This could be outlined as a painful lump of about two inches in diameter. There was no jaundice at any time. She continued to raise frequently small amounts of dark mucus. There was no melæna after Feb. 14. Fortunately the rectum continued retentive, and the nutritious enemas were evidently absorbed. She remained in a desperate condition for nearly three weeks, and even then her improvement was so slight and gradual, that her recovery seemed doubtful for some time longer. The lump described above gradually decreased in

size, and now, May 1, is no longer perceptible. She continued to eject mucus in decreasing amounts until early in April, since when it has stopped entirely. The stomach rapidly regained its digestive power, and she is now able to eat quite freely and without any distress, meat, vegetables, bread and butter. All is well digested, and the bowels are moved daily with a healthy stool. As soon as she sat up, and her legs became pendent, she suffered very severely from numbness and anaesthesia, with a distressing sense of restlessness in them; there was no oedema. This has gradually disappeared under the use of veratria ointment with bandaging, and she is now able to walk about her room quite freely. In the treatment of this interesting case, rectal injections were used from February 1, until the last week in March. They occasioned no special inconvenience, and on no occasion did they induce an evacuation. For two weeks prior to the first hæmorrhage no nourishment whatever was retained. Reed and Carnrick's liquid peptonoids was then administered in small and frequently repeated doses. It proved acceptable and for some time was the chief reliance in feeding her, and she still continues its use. The rectal injections were given every four hours, and consisted of 8 ounces of peptonized milk, and of peptonized beef-tea alternately. Nitrate of silver was ordered on February 6, and its use was continued until 16 grains had been taken, grain $\frac{1}{4}$ t.d. being used. She then took oxalate of cerium grain $\frac{1}{2}$ four times a day for two weeks, and then resumed the nitrate of silver in small doses, $\frac{1}{16}$ t.d., which has been continued until the present date. Her complete recovery now seems assured.

It cannot be doubted that ulcer existed in each of these cases, as severe recurring pain, tenderness, vomiting, and finally hæmorrhage, were present. The interesting question arises whether, in Case 3, the position of the ulcer was gastric or duodenal. It is evident that we cannot place much reliance upon the location or character of the pains. In some cases of gastric ulcer there is severe paroxysmal pain strictly localized in a circumscribed spot in the epigastrium, coming on soon after eating, increased by pressure, and disappearing as soon as the stomach is relieved of its contents. But there are many cases, of which Cases 2 and 3 are good examples, where the paroxysms of pain assume the usual diffuse gastralgic type. It is comparatively rare that there exists such definite localized pain as will enable us to determine accurately the site of the ulcer. Nor can it be said, as will be shown in Case 4, below reported, that the character or frequency of the vomiting is conclusive. Vomiting may be absent from first to last, in either gastric or duodenal ulcer. This is, to be sure, rare. It is the

rule more constantly in gastric than in duodenal ulcer that vomiting occurs repeatedly and soon after the ingestion of food. The argument is vitiated by the impossibility of determining the amount of coexistent gastric catarrh. In all the above cases this was present in marked degree; and especially in Case 3 did the character of the ejecta indicate that the vomiting was chiefly due to catarrh of the mucous membrane.

Not even when hæmorrhage occurs can we always decide. Still, it is a general rule that, in gastric ulcer, some of the effused blood—unless it escapes very slowly and all passes into the intestine, is vomited; and that on the other hand, in duodenal ulcer, unless the blood escapes very rapidly, so as to overcome the pyloric resistance, or unless the ulcer is seated very close to the pylorus and is accompanied with pyloric incompetence, the blood is discharged by stool. Case 4 will illustrate the latter statement; and Case 3, judged by this rule, would seem to be also one of duodenal ulcer. There are too many exceptions to permit a dogmatic assertion; yet here this view is confirmed by the existence of a small but distinct tumor in the duodenal region. It is important to remark that, though not a common symptom, tumor may be present in simple ulcer, either gastric or duodenal, and more frequently in the latter. The tumor is due to peritoneal exudation and adhesions, associated, in old cases, with thickening of all the tissues involved.

Even when no thickening or swelling can be detected by palpation, it is common enough to find a circumscribed spot of tenderness on pressure, which may be attributed to the sensitive state of the peritoneum outside the base of the ulcer, and which therefore may serve, when present, as a guide to the position of the ulcer. Great care is required to avoid being misled by mere epigastric hyperæsthesia, which is so common; and by tenderness of the nerve points in the abdominal walls. The position of the small tender swelling in Case 3 indicated that it was due to local peritonitis about the first portion of the duodenum; and the lesions in Case 4 showed clearly that there probably had been a distinct sense of resistance and thickening, if not of actual tumor, in the same region. Upon the whole the evidence seems to indicate that the ulcer in Case 3 was in the duodenum. There had been no severe pain—but this is merely of negative value; though it is far more usual to have recurring spells of varying intensity, as in Cases 1 and 4. There had been no jaundice, which occurs, as would be expected, in some cases of duodenal ulcer, from occlusion of the bile duct from extension of catarrh, or from thickening of the duodenal tissues. But this symptom is often absent, as in Cases 1 and 4. It should be noted also that the restoration of the tone and activity of the stomach was, in Case 3, more prompt and complete than is

seen ordinarily in cases of gastric ulcer ending in recovery. Before leaving these cases, the fever in Case 2 should be carefully noted. Simple ulcer of the stomach or duodenum is not often attended with fever. Still, this may develop from the occurrence of local peritonitis; or it may be septic, as it apparently was in this case. The complicating parotitis confirms this. The fever which occurred during the last few days of life in Case 4 was too brief and depended upon too many factors to have any special significance. The case is, however, full of clinical and pathological interest.

Case 4.¹—Duodenal Ulcer; Gastric Catarrh of long Standing; Persistent Vomiting; Gastralgic Pains; Repeated Copious Discharges of blood by Mouth and Rectum, followed by Death from Sepsis and Exhaustion.

I was called to see Mr. F. on the morning of Saturday, March 2, immediately after an enormous hæmorrhage from the stomach, which had been followed by almost fatal collapse. He was 32 years old, and a man of fine physique, who had formerly for many years indulged excessively in athletic sports. It was believed by many that he had often overtaxed himself. He had also been careless in his habits of living, especially in regard to his meals, which were irregular, and eaten hastily. He had used wine freely. He had never met with any serious accident, nor received any severe burn. For fully five years he had suffered with violent gastralgic attacks, recurring frequently and irregularly. The pain was referred to the epigastrium; not rarely pressure seemed to afford relief. His spells of pain were not brought on directly by food; and he had learnt by experience that the rapid drinking of large quantities of cold milk would afford temporary relief. It was clear that gastric catarrh had long existed. Vomiting became a symptom three or four years ago, and had continued quite frequent. It would usually occur in the morning, when he would bring up without much effort considerable amounts of mucus and acid liquid. During the day, however, he would not infrequently raise small quantities of liquid, so acid that it would bite the mouth. There had never been any jaundice. Local tenderness was not complained of, but there was distressing abdominal distension. He had been under the treatment of several physicians, but had derived no special advantage from any remedies. Most relief was obtained from restricted diet largely composed of milk. Noting this, he had continued to use milk in large quantities, especially as excessive thirst was another prominent and distressing symptom in the case. He also ate a considerable amount of solid food, while at

the same time he drank as much as eight quarts of milk in twenty-four hours, taking it for the most part very cold, and in very large draughts. At times his thirst was so intense that he would raise the pitcher to his lips and drink as much as a quart at a single pull. He lost flesh moderately; had a bad color; and began to tire more readily. There had never been any blood vomited until the sudden large hæmorrhage above mentioned. He was at his office desk when this occurred, and fell upon the floor in syncope from the shock. The amount of blood which escaped cannot be estimated accurately, but an experienced physician who saw him immediately afterward says it was certainly over a quart. I saw him for the first time two hours after the hæmorrhage. He was deathly pale, with a miserably small and running pulse; and was complaining bitterly of intense thirst. There was no vomiting; the bowels had not been moved; the belly was moderately distended. He had taken a large dose of Monsell's solution. Nutritious and stimulating enemata were given. Digitalis was injected under the skin; smaller doses of the astringent were continued internally. He reacted gradually through the day, and by night seemed much better; but early on Sunday morning became restless and distressed, and soon had another enormous discharge of blood from the stomach. This again was certainly over a quart, and was soon followed by a large discharge of black tarry blood from the bowel. Alarming collapse again ensued. Monsell's solution was repeated; a bag filled with cracked ice was bound tightly upon the epigastrium; hypodermics of ether and digitalis were administered. He reacted imperfectly toward evening. No further hæmorrhage occurred. But during Monday he sank in spite of all efforts, and at 1 o'clock Tuesday morning, in consultation with Dr. J. William White and Dr. Judson Daland (whom I had placed in constant attendance upon the case), it was decided to transfuse. Dr. White injected into the left median basilic vein 32 oz. of hot saline solution, composed of sodium chloride 5ij; potassium chloride gr. xij; sodium phosphate gr. vi; sodium carbonate ʒij; alcohol ʒss; distilled water, q. s. ad Oij. The temperature of the liquid injected was 110° F.

The patient's condition was desperate when the injection was given. So exsanguine was he that when the vein was opened, it lay collapsed on the grooved director with not even an oozing of blood. Within a few minutes after the injection, blood began to flow from the distal part of the vein and it soon became necessary to ligate it. Its immediate effects were gratifying, and were especially marked upon the pulse, which became slower, stronger and fuller. His thirst was constant and intense. The transfusion did not help it. The good influence of the trans-

¹ This is the same case which was reported partially in the Medical and Surgical Reporter for April 20, 1889.

fusion did not last many hours, and, in fact, its effect was so transient that at no time until the occurrence of death upon the following Saturday, March 9, did we feel encouraged to repeat it. The stomach continued retentive. The patient's demands for liquids were incessant and imperative. They were resisted with difficulty, and only small quantities of milk and lime water and of a mixture of one part of champagne with two of Apollinaris water (kept frozen in an ice-cream freezer), were given alternately. Rectal enemas of peptonized liquids were given at intervals of four hours. The rectum proved unusually tolerant. It appeared probable that all the enemas were absorbed, although from time to time large quantities of horribly offensive decomposing blood were discharged from the upper bowel. Listerine was added to the enemas as a disinfectant. The medication was exclusively by hypodermic injection. Morphia, atropia, digitalis and ether were used with great discretion and with excellent result by Dr. Daland, according to the indications from hour to hour. On Wednesday, March 6, the temperature began to rise, and on Thursday and Friday it ranged from $101^{\circ}.5$ to $102^{\circ}.5$. It sank again on Saturday prior to death. No local cause for the fever could be determined; it seemed chiefly septic, though intestinal irritation played a part. The pulse continued extremely small and weak, and rapid.

Auscultation showed a distinct systolic murmur, heard over the sternum. This was regarded as at least in part organic, and due to disease of the aortic valves. The urine was examined several times after Tuesday, the 5th. It contained a very small amount of albumen; no sugar. There were a few leucocytes, but not sufficient to account for the albumen. There were no tube casts or blood. Death occurred gradually from exhaustion and heart failure.

Autopsy showed moderate enlargement of the heart. There were short fibroid vegetations on the free surface of the aortic valves. No other cardiac changes were present. The lungs were normal. The diaphragm was unusually thick and powerful. The spleen and pancreas were normal. The kidneys were very large; there were two small retention cysts on the surface, but no serious organic change. The liver was enlarged, weighing $4\frac{1}{2}$ lbs. The gall bladder was distended with 5 ozs. of dark bile; the bile ducts were normal. The stomach was greatly dilated, its capacity being over 3 quarts; its walls were thickened, and the mucous membrane showed evidences of chronic catarrhal inflammation. No ulcer or cicatrices were found. The duodenum was tightly adherent by old and firm adhesions to the liver, the gall bladder, and adjoining parts. It was greatly distended and its walls were softened, so that they readily broke upon traction. Upon its anterior face, about $\frac{1}{2}$ inch from the py-

lorus, there was a large irregularly round ulcer, with a diameter of almost 2 inches. The tissue of the duodenal wall at this point was much thickened and fibroid. About the centre of the ulcer the pancreatico-duodenal artery was ulcerated through, each portion of the vessel containing a soft thrombus. The ulcer was shallow, with slightly terraced edges. At about the beginning of the ileum there was a small fibroid growth projecting into the bowel. The stomach and small intestines contained no blood, but, in spite of the frequent and large bloody discharges during five or six days, the colon still contained a large amount of black faecal matter and of decomposing blood. It is evident, therefore, that at the time of the discharge of blood by vomiting, there was also an enormous amount of blood which passed down into the bowel.

There are many points of interest in this case which, for want of space, cannot be considered. Gastric catarrh had lasted so long that the patient had become accustomed to symptoms which should have caused constant alarm. The ulcer seems never to have been suspected by any of the numerous physicians he had consulted, and it is, of course, idle to speculate as to its duration, or as to whether it might have been recognized if the case had been studied carefully with suspicion alive, as it should always be where recurring pain and vomiting occur. His straight abdominal muscles were enormously developed, but the lesions about the duodenum indicated that, with proper care, the local thickening and hardening might have been detected.

All of these cases illustrate the difficulty of the treatment of simple ulcer of the stomach or duodenum. It is clear that, whenever suspicion is aroused as to the existence of ulcer, treatment must be prompt, rigid and persistent. Even when symptoms are mild, the gravest danger is lurking in the case. Taken thus, most cases recover. Strict rest; rigidly regulated feeding; full courses of nitrate of silver, alternating with oxalate of cerium, with bismuth or with copper, seem the most important elements of treatment. Careful attention to coexisting gastric catarrh by diet, by mild mineral waters, or even by lavage, may be demanded. Complications and accidents must be met promptly. Even the gravest cases may terminate favorably, after recovery seeming wellnigh impossible; so that the prognosis must not be a hopeless one as long as life lasts. The disease affords a good field for, and at times most imperatively demands, judicious hypodermic medication and rectal alimentation. The value of the latter cannot be exaggerated. In very bad cases, it may be associated with systematic inunction, and, as shown in Cases 2 and 3, life may be thus sustained for long periods, until happily the progress of cicatrization permits the resumption of feeding by the mouth.

THE TREATMENT OF ASTHMA.

Portion of a Lecture delivered in the Regular Course of 1885-86.

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For the relief of asthma an almost countless number of drugs have been suggested and tried. It is not my purpose even to enumerate these, but to call attention to those that are to-day most frequently employed with success and to those with which I have had personal experience. Treatment of asthma is prophylactic and also is addressed to the immediate relief of the dyspnea. In order to understand the mode of action of drugs in asthma, it is necessary to keep in mind its causes and the mechanisms within the body that are called into play in producing the phenomena of the disease. It is true that the bronchial tubes are congested during the dyspneic attacks, but it is not probable that this is the cause of the difficulty of breathing. A true spasm of the bronchioles constitutes the essential change. This spasm is produced by contraction of the muscular tissue in the bronchial wall when excited by the nerves supplied to it. The initial irritation of the nervous system arises in only a moderate proportion of all cases within the bronchial tubes. In some cases of bronchitis, and in some cases of uncompensated heart disease with passive engorgement of the bronchial vessels the afferent nerves of the bronchi are irritated, and thus reflexly the efferent nerves and finally the bronchial muscles are excited. Immediate irritation of the efferent nerves may be the cause of spasm of the bronchi in these cases, although the action of drugs points to a reflex cause. More frequently the initial irritation is in some distant organ, whence reflexly the muscular nerves of the bronchi are excited. A common illustration of this mode of origin of bronchial spasm is seen in the cases of hay and rose fever that are complicated by asthma. The initial irritation is within the nose. In rare cases we find the efferent nerves to the bronchi excited by mental changes or changes originating within the central nervous system. In mild uræmic poisoning asthma occasionally occurs. Whether, in these cases, the uræmic poison primarily irritates the central nervous system and thus provokes the attack, or the peripheral nerves and bronchial muscles, is not known, but the former explanation seems probable. The mechanism, as you will notice, essential to the production of most asthmatic attacks, consists of the afferent nerves and primary irritation of their termini, of nerve centres, probably in the medulla, by which the irritation of the afferent nerves is reflected to the efferent nerves and, lastly, the efferent nerves and their endings in the muscles of the bronchi. For convenience we may name the first of these factors, the afferent nerve endings, the *source of irritation*; the second, the

nerve centre, the *reflector*; and the third, the efferent nerves and bronchial muscle fibres, the *focus of irritation*.

An analysis of the mode of action of the drugs that are most successful in asthma shows that in one of three ways they relieve the spasm. We may therefore place them in three groups. These groups are characterized by the mode of action of the drugs upon the nervous mechanism involved in asthma. The first includes those that affect the source of irritation and thus prevent the development of an attack; the second those that benumb the nerve centre or reflector of irritation; and the third those that act upon the focus of irritation.

In the first group we must place a very promising collection of drugs, since the source of irritation may be in almost any part of the body. We find, therefore, in this list, those medicines that allay irritability of nasal, pharyngeal, bronchial and gastric mucous membranes, and also those that allay irritability of the womb and some of the parenchymatous organs.

A very considerable number of cases have for the source of irritation the nasal mucous membrane. The irritant may be a foreign body in the air that is breathed, or a chronic inflammation of the mucous membrane, or a polypoid or other growth. Prophylaxis is readily applied to the cases of hay fever, in which foreign bodies in the atmosphere are the exciting cause and the nasal mucous membrane the source of irritation of the disease and complicating asthma. A change of climate and therefore of air is curative. The localities in this country that afford most perfect exemption are the White Mountains, Mackinac and many localities along the shore of Lake Superior, and numerous places in the more elevated parts of the Rocky and other mountainous regions. A residence in the heart of a thickly populated city will often grant to individual cases immunity, although they may suffer severely in neighboring suburbs. As these attacks are most likely to occur at certain seasons, especially in August and September and less frequently in June, temporary changes of abode at these times will usually give to those who are liable to the attacks exemption. Many of the afflicted cannot take advantage of such prophylactic treatment. It is possible, usually, to lessen the severity of attacks and sometimes to prevent them by appropriately applied medicinal treatment. There is necessary for the production of this asthma not only the specific irritant in the atmosphere, but a peculiar sensitiveness of the nerve endings which constitute the source of irritation, and possibly also of the nerve centres. Advantage can be taken of these facts in mitigating and preventing the disease when a change to a pure unirritating air is impossible. Thus, in hay fever, local anaesthetics applied to the nasal mucous membrane will frequently

hold the disease in abeyance or at least mitigate it. Of the remedial agents that can be topically applied for anæsthetic effects, cocaine is the most important. A 5 to 10 per cent. solution may be sprayed into the nose through the anterior nares and, when necessary, also applied to the posterior nares through the mouth. Or it can be employed by insufflating a powder composed of it and some bland diluent. A cocaine ointment may be used, a little being placed in the nostrils and allowed to melt and trickle backwards so as to anoint the mucous surfaces. This method is less efficacious than either of the others, since the drug is not applied so uniformly to all parts of the nose. It must be remembered in regard to cocaine that, if used in small amounts often, or in strong solution less frequently, symptoms of intoxication may be produced. I have rarely found it necessary to use preparations of more than 4 per cent. strength. Often a few applications of cocaine will greatly aid in discovering the source of irritation, for cases occur in which we suspect the source to be in the nose or throat, and if applications to these parts allay the dyspnoea, we may feel that our suspicions are well founded.

As a topical application morphia is also useful. It acts less promptly than cocaine, but often its effects are more lasting. A favorite formula of mine consists of 4 per cent. of cocaine, 2 per cent. of morphia, mixed with some inert powder or with water, according as I wish to make applications by insufflating or by spraying.

To prevent asthmas that result from the existence of chronic inflammation or tumors within the nostrils a destruction of the irritating tissue must be effected. A temporary relief can often be obtained by the use of the local anæsthetics just mentioned. Rarely the source of irritation is found in the pharynx or larynx. In such cases the irritant is usually a morbid growth or a chronic inflammation with hypertrophy. Such lesions must be treated just as are their analogues in the nasal cavity.

We must place in this miscellaneous group also the various expectorant and anodyne mixtures that are employed to allay laryngitis, trachitis or bronchitis, since these inflammations are frequent causes of asthma, and therefore their cure will give exemption. The efficacy of such mixtures is greatly enhanced by combining with them drugs that belong to the second group, or those that allay the excitability of the reflex centres.

In the same way asthma which accompanies uncompensated valvular disease of the heart is relieved by digitalis and similar drugs. They strengthen the heart's action and give greater tone to the blood-vessels, and thus reduce venous hyperæmia of the lungs and bronchi. These remedies accomplish more for such asthmatics than those that relax muscular spasm. They do good by stopping the irritation at its source.

Cases in which the source of irritation is in the organs of the alimentary tract are relieved, and often permanently cured, by treatment of the primary lesions. Occasionally a woman is found who is persistently troubled with asthma during pregnancy, although free from it at other times. Absolute relief is, so long as pregnancy lasts, usually impossible. I have, however, seen most marked benefit obtained by the persistent use of viburnum prunifolium. This drug without doubt lessens the irritability of the uterine tissues, and thus diminishes the irritability of the source of irritation of the asthma.

The second group of drugs includes those that act on the nerve centres and thus inhibit reflex action. The most important of them are chloral, chloroform, ether, opiates and bromides. When dyspnoea is intense a few whiffs of chloroform will give relief promptly. As the relief is often not of long duration and as the drug cannot with safety be left in the hands of the sufferer, its range of usefulness is limited. Of this group, chloral is the safest and most universally useful. If the asthma is wholly paroxysmal, it is best administered in one or two full doses rather than in several smaller ones. Often 1 gram or 1½ grams, given in sweetened water, will not only relieve present dyspnoea but produce an effect sufficiently lasting to suppress the attack. In cases that occur as complicating bronchitis, trachitis or laryngitis, and in which the dyspnoea is not paroxysmal only, but to some extent is persistent, since the source of irritation is constantly excited, the best effects are to be obtained by the repetition of smaller doses of chloral or of bromides, or of opiates, or of mixtures of all these with expectorants. In this way the nerve centres are constantly inhibited or restrained in their activity, so that the paroxysms of exacerbation are held in abeyance and time is gained in which to overcome the primary inflammation. A formula that I have frequently employed with marked benefit in such cases is the following:

R. Chloral	grams 15.00.
Ammonii muriatis.	" 10.00.
Morphice muriatis.	" .20.
Antim. et pot. tart.	" .15.
Ex. grindelie robustae fl.	" 45 vel 60.00.
Aq. vel syr. glycyrrhiz q. s. ad.	" 120.00.

Give 1 teaspoonful every three to six hours in sweetened water.

Morphia and the bromides are less generally useful than chloral. The bromides, given steadily in rather large doses, are serviceable when the source of irritation is the larynx or pharynx, for they not only act favorably by lessening the excitability of reflex centres, but also have the peculiar property of benumbing the nerve endings in the mucous membrane of the larynx and pharynx. The dose should be large, for example, 1½ to 3 grams of the bromide of sodium.

There is another class of remedial agents which

it is difficult to classify with certainty, for our knowledge of their physiological action is imperfect, and the results of researches are not completely harmonious. The drugs to which I refer are *grindelia robusta*, *senecio aureus*, *quebracho*, *lobelia*, *tobacco*. It seems probable, however, that as remedies for asthma they can be placed in this second group. The last of these we know produces its nauseant effects chiefly by acting on the nauseating centre in the medulla. Death from tobacco poisoning is due to paralysis of respiration. The end organs of the motor nerves are first affected, then the nerve trunks, and finally the respiratory centre. The physiological action of *lobelia* is very similar to that of *tobacco*. When *lobelia* is used in asthma it must be given in doses of from 2 to 4 cubic centimetres of the tincture, and repeated every two hours or oftener until vomiting and relief are produced. Mitigation of the dyspnoea usually corresponds with intense nausea and is greatest after vomiting.

Tobacco is useful only in mild cases, and when used by persons not accustomed to it. From the apparent relation of the therapeutic effect to the nausea, the action of the drugs seems to be due to an influence which they exert upon the respiratory and vomiting centres. It is not possible that their therapeutic action is due to paresis of the motor nerves, for it is only by overwhelming doses that these nerves are paralyzed. *Tobacco* and *lobelia* do not affect the muscle fibres. It must be remembered, too, that during intense nausea from any cause respiration becomes deeper and more forceful. From all these considerations, I feel inclined to ascribe their favorable action to the influence they exert over the reflex act at the nerve centre.

Quebracho has a peculiar effect upon respiration in healthy persons. It slows it and prevents panting when hurried movements are made. At the same time it retards the heart. Gutman has shown that its active principle, *aspidospermine*, produces death by poisoning the respiratory centre.

We know less of the physiological action of *grindelia* and nothing of *senecio*. *Grindelia* produces death only in very large doses, and then by paralyzing respiration. In smaller doses it slows the respiration and the heart.

The effects of *lobelia* must be carefully watched, for large doses have produced alarming symptoms. For this reason I have employed it rarely, but *grindelia* I have administered frequently and *quebracho* and *senecio* less frequently, although enough to feel confident that to some extent they are useful. They are so much less efficacious than some other remedies at our command for the relief of the dyspnoea that I rely upon them not at all for its treatment, but rather as adjuvants for warding off the recurrence of the paroxysms.

Grindelia and *quebracho* are probably mildly expectorant, and through their bitterness tonic to

the stomach. I have seen several cases apparently exempted from severe attacks by *senecio aureus* only. The drug was not given during dyspnoea, but while the paroxysms were threatening and at a season when the patients were usually afflicted by them. By the continued use of it for several weeks an actual outbreak was avoided. *Grindelia* and *quebracho* are the most efficacious of these remedies. But their bitter and otherwise unpleasant taste limits greatly their eligibility. Their fluid extracts can be administered in doses of 2 to 4 cubic centimetres.

The third group of drugs embraces the nitrites and nitro-glycerine. Amyl nitrite administered by inhalation has been used in asthma for a number of years. Nitro-glycerine has been used less frequently, and the nitrites of soda and potash still less. Prof. Fraser, of Edinburgh, has given us the most trustworthy information as to the relative value of these drugs in asthma. They all relieve the spasm, and with wonderful promptness. The effects of amyl nitrite are very transitory. Nitro-glycerine, when given in doses of sufficient size, is apt to provoke congestive headache. The nitrite of soda he found gave quite as prompt relief as the others, was less likely to provoke headache and produced more enduring effects. The more purely spasmodic the case the more efficacious are these drugs. Dr. Fraser found that in two or three minutes after the administration of even half grain doses of the nitrite of soda, marked relief was noticeable in the patient's breathing and a lessening of the crowing and piping in the chest. In ten minutes or less, as a rule, the patients feel comfortable. It was rare that it was necessary to repeat the dose in any single attack. The good effect of these drugs, when administered in the usual therapeutic doses, is undoubtedly chiefly due to their action upon the muscle fibres of the bronchial tubes, irritability of which they lessen or temporarily destroy. In other words, they act upon the focus of irritation. In less degree they may diminish the irritability of the motor nerves. This is a somewhat doubtful effect of therapeutic doses, although it can be obtained from large doses. Very large doses also lessen the excitability of the spinal cord and higher nerve centres. In using the nitrite of soda, which from considerable personal experience I can commend, it must be remembered that there are two preparations in the market, a "commercial" and a chemically pure. The former can be given in doses of from 5 to 10 grs. (gms. .3 to .6), and 20 grs. (gms. 1.3) have been given without harm.¹ The therapeutic dose of the chemically pure drug is from 1 to 5 grs. (gms. .06 to .3). Headache, although of rare occurrence from the nitrite of soda, is not always wanting. During the present fall, in the case of Mrs. C., I directed 6 decigrams of the commercial nitrite to be taken. It relieved

¹ "Therapeutics, its Principles and Practice," by H. C. Wood.

the dyspnoea promptly, but produced an intense though temporary headache. While the most beneficial effects are obtained in the most frankly paroxysmal cases, I have derived marked benefit from the continued use of these remedies in asthma but complicated bronchitis and that were to some extent persistent. In such cases I have combined the nitrite of soda with the usual expectorant and anodyne treatment of bronchitis. I have administered it in 18 to 30 centigram doses every three to six hours. While it does not influence inflammation or allay cough, it seems to lessen the dyspnoea and prevent the paroxysmal exacerbations which recur in such cases.

Atropia, stramonium and hyoscyamus constitute another series of drugs that are analgesic to the focus of irritation. The two first are the ones most frequently used in this disease. They cause relaxation of the bronchioles, in part by benumbing their involuntary muscular fibres and in part by lessening the sensibility of their terminal nerve fibres. While efficient in aiding to give relief, their side effects are so marked and often so disagreeable that they cannot be used in efficient doses. The action of the drugs is so well known that I need hardly say that these side effects are dryness of the mouth and throat and heat and redness of the skin, dilatation of the pupil, disturbed vision and, in very susceptible patients, mental disturbances. I have rarely employed these remedies in the full doses that are necessary in order to obtain the best results in asthma, but frequently use them in smaller doses to reinforce the action of other drugs. A favorite and very efficient combination for the relief of asthmatic dyspnoea I have found to be:

R. Chloral	grams	20.
Sodium nitrite	"	3.
Tinct. stramonium	"	10.
Elix. simpl. q. s. ad	"	60.

Take 1 teaspoonful every four hours in water.

Not only do these remedies act favorably when they are taken by the stomach, but the inhalation of the smoke of the crude drugs is often of the greatest benefit. Stramonium leaves are used in this way most frequently. The leaves are smoked either when rolled into cigarettes or from a pipe. Their efficacy is enhanced by first soaking them in a saturated solution of nitre and subsequently drying them for use; or they may be mixed with or rolled in bibulous paper that has been thus saturated. The nitre is decomposed by the heat and a nitrite is formed which aids in relieving the dyspnoea. There are numerous proprietary cigarettes and pastels for asthma, the basis of whose composition is stramonium and nitre.

Rarely examples of a peculiar form of asthma are seen in which the source of irritation seems to be mental or central rather than peripheral. I refer to those cases in which the dyspnoea is caused by fear, and to those in which it is excited by cer-

tain but the most varied localities or odors. If these susceptible persons are not conscious of being in the locality of the noxious object no respiratory discomfort is experienced. These are cases of mental idiosyncrasy, and usually occur in persons of an hysterical temperament. It is in such cases that valerian has sometimes been used with benefit.

Asthma occurs as a frequent complication of Bright's disease. It is caused in two ways by this disease. In some cases it arises from a complicating bronchitis, but more frequently from uræmic poisoning. When bronchitis is the cause it must be treated upon the principles already explained, but when uræmia is present a different method must be employed. The measures that are most beneficial are those that aid in eliminating the poison. Diaphoretics, diuretics and cathartics are therefore indicated. The first of these classes of drugs gives the most prompt relief. Of diaphoretics, pilocarpine administered subcutaneously is the most prompt in its action. The uræmic poisons are largely eliminated by the copious diaphoresis that it produces. It is necessary to prevent their reaccumulation. This is best accomplished by diuretics and, when they are not sufficient, the coincident use of cathartics. Cathartics and the preparation of jaborandi must be employed with much caution when a patient is debilitated or has heart weakness.

In the intervals between the dyspnoeic attacks the iodides are often prescribed, and with marked benefit. Unfortunately, they do not uniformly ward off or mitigate the paroxysms. Clinicians have not yet discovered the precise indications for their use. The cases in which I have most uniformly derived good results from their employment have complicated chronic bronchitis. It is probable that their good effects are largely due to the property which they possess of promoting reabsorption of cellular exudates into inflamed tissues. The iodide of soda is the most eligible preparation for persistent employment. It should be given for weeks and often for months.

There have been observed rarely cases in which the asthma seemed due to direct irritation of the pneumogastric nerve by enlarged bronchial and cervical glands. In a few of these cases the iodides are said to have done good by reducing the glandular enlargement.

Arsenic is also frequently administered persistently in the intervals between paroxysms. How it acts we do not know. It is a remedy, as you remember, that is employed for the relief of many paroxysmal neuroses. The Fowler's solution, administered in gradually increased doses up to the point of toleration and then persistently continued, is perhaps the favorite prescription. Personally I have not been gratified with the results that I have obtained from its use.

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ORIGINAL ARTICLES.

MICRO-ORGANISMS; AND THEIR RELATION TO DISEASE.

Read before the American Academy of Medicine, and approved by the Council for publication.

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OF BOSTON, MASS.

SURGEON TO THE SOLDIERS' HOME IN MASSACHUSETTS

The rôle of the microorganisms called bacteria is at present probably occupying the attention of more scientific men than any other subject in modern science. Great numbers of observers are at work on both continents in the solution of the *germ theory of disease*. Comparatively unknown till within a few years, on account of their very minute size, these microorganisms attracted attention and experimentation chiefly when the improvement of the microscope allowed objects of their size to come within the limits of its powers of observation. At first simply recognized as existing, their persistence and universality demanded question as to what they are, their origin and object.

The history of these microorganisms is related to that of spontaneous generation, to that of the fermentations, to the pathology and therapeutics of a great number of virulent and contagious affections; and in a more general manner to all the unknown, which notwithstanding the efforts of modern science still surrounds the origin of life and its preservation.

The bacteria are the lowest of organisms, belonging to the vegetable kingdom and are thus defined by the botanists, who have most recently occupied themselves with them: "Cells deprived of chlorophyll of globular, oblong or cylindrical form, sometimes sinuous or twisted, reproducing themselves partly by spores and by transverse division, living isolated or in cellular families, and having affinities which approach them to the algæ, and especially to the oscillariæ."

The atmosphere transports myriads of microscopic plants and animals. M. Miquel has pursued interesting studies upon them. M. Pouchet has devised the *aëroscope*, that bears his name, for collecting dust from the air which contains remnants of articles that we use, existing in the condition of impalpable dust, also pollen of plants, particles of mineral matter, and the spores of cryptogams, the moulds and algæ. Some micrographers have suggested that germs may be transported by the vapor of water; but Miquel's experiments show that the evaporation of water from the ground never carries any schizomycetes with it. On the other hand, dry dust, especially from hospitals, etc., is charged with microorganisms. The greatest labors, however, have been employed concerning a different class of organisms than the algæ and moulds. The plants

comprising this group, under the common designation of *bacteria*, in consequence of their extreme minuteness and refractive power, are invisible in the preparations of the *aëscopes*, and are recognized only by the higher powers of the microscope.

The first observer who recognized the microorganisms was Leeuwenhœck, as early as 1675. While examining with his magnifying glasses a drop of putrid water, the father of microscopy remarked with profound astonishment that it contained a multitude of little globules which moved with agility. During the following year he observed the presence of bacteria in feces and in tartar from the teeth.

M. Cohn is a naturalist who has occupied himself very much with the bacteria. In 1853 he published his first researches upon this subject and twenty years later there appeared a series of "Memoirs" devoted to these organisms. In the first paper he gives an exposition of his researches upon the organization, development and classification of the bacteria, and upon their action as ferments. His classification is:

1. The sphærobacteria, or globular bacteria.
2. The microbacteria, or rod bacteria.
3. The desmobacteria, or filamentous bacteria.
4. The spirobacteria, or spiral bacteria.

This classification has probably been accepted by more germ theorists of to-day than any other classification.¹

The smaller spherical bacteria may be confounded with various objects, *c. g.*, molecular granules, fat globules, amorphous precipitates, etc. To distinguish these pseudo-bacteria Nägeli says: "There are but three distinctive signs which enable us to recognize with some certainty that the granules under observation are organisms: spontaneous movement, multiplication, and equality of dimensions, united with regularity of form." To which may be added the action of re-agents.

The atmosphere is laden with these microorganisms. Developing in the organic infusions into which they fall, they soon determine their complete decomposition; for during their growth bacteria live upon the nutritive material, as all other plants do upon their soil. This is putrefaction, and they are always present as the cause. As is well known, bacteria are always present in some form or other in fermenting liquids. Fermentation only occurs after the access of particles from the outer world, and it is asserted by the supporters of the germ theory that these particles are organisms or their spores, and that it is by the growth of these organisms in the fermentescible material that it undergoes alteration. The essentials for the production of new forms are: a putrescible body, water

¹ The classification proposed by Koch is now quite universally accepted. The term *bacteria* is used in the general sense, including both the *micrococcæ*—the ball forms—and the *bacilli*—the rod forms.—Written since reading of the paper.

and air; while heat, light and electricity favor the process.

As Sir William Roberts says: "Without saprophytes there could be no putrefaction; and without putrefaction the waste materials thrown off by the animal and vegetable kingdoms could not be consumed. Instead of being broken up, as they are now, and restored to the earth and air in a fit state to nourish new generations of plants, they would remain as an intolerable incubus on the organic world. Plants would languish for want of nutriment, and animals would be hampered by their own excreta, and by the dead bodies of their mates and predecessors—in short the circle of life would be wanting an essential link. A large proportion of our food is prepared by the agency of saprophytes. We are indebted to certain bacteria for our butter, cheese, and vinegar. Our daily bread is made with yeast, and to the yeast plant (discovered in 1836 by Cagniard de la Tour, and also independently by Schwann about the same time) we also owe our wine, beer and spirituous liquors. As the generator of alcohol, this tiny cell plays a larger part in the life of civilized man than any other tree or plant."

Unfortunately for us, however, they have a powerful potency for evil also, and it is the noble aim of science to be able, by thorough study of the conditions under which that potency is acquired and exerted, to keep it under efficient control.

Much still remains to be determined with regard to the disease-producing possibilities of the germs that in invisible clouds drift in the atmosphere. The more delicate and exact methods of the most recent observers—Koch, Pasteur, Tyndall, Ehrlich, Ogsten, Sternberg and others—with regard to their nature seem to show that there are many varieties of them, each of which has its own conditions of growth, requiring or developing best in a particular soil. Different species multiplying in different media and varying in their susceptibility to different temperatures and to different chemical reagents. Apparent identity of form does not necessarily indicate identity of nature. They are not convertible into each other. Each species produces only itself, and is produced by itself alone, and when introduced into a substance that affords a favorable soil for its growth always produces the same results. These results are not produced suddenly, but are of gradual development, progressing with the slow and steady multiplication of the organism. They may be cultivated artificially in either solid or liquid media. The best known and most commonly used solid medium is nutrient gelatine, which unites the advantage of transparency with that of solidity; but it has the disadvantage of melting at a comparatively low temperature. When it is desired to cultivate bacteria at a temperature approaching that of the human body, sterilized blood-serum

may be used, or a preparation of agar-agar, a Japanese sea moss. The cut surface of a freshly sterilized boiled potato is also a very satisfactory culture medium under some conditions.

For liquid cultures a tube or bulb hermetically sealed, containing a sterilized infusion of hay or meat, is used, which will remain clear indefinitely. When, however, the germs are introduced in ever so minute quantity, they begin to develop, after a varying interval of one to twenty days, and then they rapidly increase. The liquid infusion, previously clear and pellucid, becomes more or less cloudy or turbid. When in this condition, we may be sure of the presence of rapidly increasing microorganisms in great numbers, as the microscope will invariably reveal.

It has been a widely disputed question as to whether bacteria ever occur in the animal in a perfectly healthy state: the affirmative view having been taken by Billroth and some others; but it is denied by Koch, by Pasteur and by Ehrlich, who state that they have never detected bacteria in the healthy animal. The failure of putrefactive bacteria, according to experiments, would go to show inability to struggle against the normal cells indigenous to the soil upon which they were planted. Some bacteria showed power of existence only in tissue in which vitality had entirely ceased, while others seemed to possess the power of existence in the presence of the animal cells when the latter suffered from impairment of nutrition, and the tide of life was turning against them. Abnormal composition of the blood seemed to favor the development of some bacteria, after they had found their way into the tissues.

The theory of a causal relation between bacteria and diseased processes has recently received a wide acceptance. In some diseases this relation is established, while in others it is presumed on the ground that bacteria are found in the blood and diseased products. As additional evidence in favor of special bacteria for different diseases, the fact is advanced that bacteria found in different diseases have been discovered to have different morphological and chemical properties; to which may be added of still greater value, the different appearances presented by the colonies growing upon solid culture media.

Admitting this causal relation of bacteria to disease, it must be demonstrated by successive cultures of the bacteria found to exist in the diseased person, and by the induction of the same disease in man or healthy animals by inoculation, with a reproduction of bacteria. The first discovery of the association of a germ with disease was by Pollender, in 1849, who found certain rodlets in the blood of animals suffering with splenic fever, also variously known as anthrax, wool-sorter's disease, malignant pustule, and

the parasite was afterwards pointed out by Davaine (1863), and subsequently carefully investigated and confirmed by Pasteur and Koch. The bacillus can be isolated and developed in proper cultivating media, and, when inoculated into some animals will produce splenic fever.

Again, in 1873, Obermeyer, of Berlin, discovered a bacterium in the blood of patients suffering from relapsing fever, which has been named *Spirillum Obermeyeri*. It is found only during the febrile paroxysm, disappearing during the interval. So far, attempts at cultivation have proved unsuccessful.

In March, 1882, Koch, of Berlin, announced the discovery of the *bacillus tuberculosis*, which he asserted to be the exciting cause of tuberculosis. His results have been confirmed by many observers, and the bacilli have been found in the tubercles and sputa of persons suffering from phthisis. As you all know, they reproduce themselves when cultivated under proper conditions, and cause tuberculosis when inoculated into animals.

The discovery of the parasitic origin of glanders followed closely upon that of the bacillus of tuberculosis. This was also made in Koch's laboratory by Prof. Schultz and Dr. Loeffler; and the results were verified by pure cultures and inoculations.

Birch-Hirschfeld has confirmed the discovery of the presence of a microorganism of syphilis, already announced by Aufrecht, which consists of oval-shaped micrococci in chains.

In gonorrhœa a micrococcus was discovered by Neisser, isolated, cultivated, and, it is reported, successfully inoculated.

Bacteria have also been found in malaria and in whooping-cough. A micrococcus has also been found associated with croupous pneumonia, by Friedlander. This may occur singly, but is generally found as a diplococcus.

Von Recklinghausen first described the bacteria of typhoid fever; and Klebs, in 1881, described a large bacillus, which he calls *B. Typhosus*, in which spores are formed in the centre, and often at the end. This is carried by the blood and lymphatics, and is found in all the organs. It is more generally believed, however, that the *causa morbi* is a peculiar short bacillus discovered by Eberth. This is rounded at both ends, and has spores. It is found in the ulcers, mesenteric glands and spleen; and has been cultivated by Gaffky. The inoculation of animals has not been successful; but it must be remembered that they do not have the disease spontaneously.

The *Micrococcus Vaccinæ* is very small, only half the thousandth of a millimetre in diameter, and is found isolated or in pairs, and when cultivated forms chaplets. Colin regards *M. Vaccinæ* and *M. Variolæ* as different races of the same species, but Magnin thinks them identical. In

vaccinia they are found in the lymph of the vesicle, and in its borders in the rete malpighi, and were subsequently traced into the subjacent cutis, especially in the lymphatic spaces. The multiplication and extension coincides with the development of the pustule. In variola, Chauveau (1868) first proved a particular nondiffusible active principle; and Cohn (1872) first proved that the lymph contains numerous micrococci. I have myself cultivated the *M. Vaccinæ* into the third generation in liquid media, the first inoculation being made directly from the lymph of the vesicles on a calf at Dr. Martin's stables in Roxbury; but limited experiments failed to produce characteristic vesicles on babies vaccinated from these cultures.

The comma bacillus of cholera (Koch, 1883) has of late attracted much attention. They are found chiefly in the excreta of cholera patients, are slightly curved like a comma or half of the letter U, and occur single or in pairs like the letter S; when their growth is retarded they form a spiral chain of several members. They are easily cultivated on nutrient gelatine, forming a growth easily distinguished from others, even from those which are morphologically similar, viz, the so-called cholera nostras, comma bacillus of Finkler and Prior, the mouth comma of Miller and the cheese comma of Deneke. After much experimentation Koch has succeeded in inoculating animals. The bacilli require an alkaline medium for their growth; so he injects, with a catheter carbonate of soda into the stomach of guinea pigs, to neutralize the acid of the gastric juice. Then he injects a considerable quantity of a solution containing the comma bacilli. Even this is not sufficient; for they pass through the intestines so quickly that they do not proliferate, and therefore he injects into the peritoneal cavity tincture of opium sufficient to paralyze the intestines and stupify the animal for some time. About half of the animals so treated die in from twelve to twenty-four hours, and a nearly pure culture of comma bacilli is found in the intestines.

In scarlet fever Coze and Feltz have found micrococci in the blood, and inoculation of rabbits sometimes produced death; but it is not certain that it was due to scarlatina. Polae Pineas found very minute micrococci on the scales of desquamating epithelium; and in the throat discharge.

In acute infectious osteomyelitis a peculiar micrococcus is found, which is easily cultivated, and, when rabbits are inoculated, and their bones broken, abscesses form containing micrococci.

In measles, Coze and Feltz found bacteria in the blood which were minute and mobile. The rabbits were not killed. Braidwood and Vacher caused children with measles to breathe through glass tubes coated with glycerine, and found sparkling bodies, something like those in vac-

cinia, but larger. These were most abundant during the second and third days. They also found them in the lungs and livers of two children who had died of the disease.

The individuals of the streptococci of erysipelas are smaller than the micrococci of vaccinia. Lukinsky found them in zooglea masses in the lymphatics, on the border of the erysipelatous zone. Fehleisen also found and cultivated them. He inoculated the ears of nine rabbits, and produced the characteristic rash in from thirty-six to forty-eight hours; the animals did not die. He also produced typical erysipelas, in from fifteen to sixty hours, in men who were inoculated to produce beneficial results in tumors. I have also cultivated them in liquid media.

Septicæmia and pyæmia have been carefully investigated by Koch; and these diseases have been found due to bacteria, which he has cultivated and inoculated.

In diphtheria, micrococci are found in the membrane and in the surrounding lymphatics, blood, kidneys and muscles. They are about the size of *M. Vaccinie*, slightly oval, single or in pairs, and in colonies. Eberth showed the particulate character by filtration. Klebs claims to have produced diphtheria from inoculation of pure cultures, and to have found micrococci in the tissues and blood. Nasiloff inoculated the cornea with enormous multiplication of microorganisms in the lymphatics of the palate, bones and cartilages, and says that they are the primary step.

With the diphtheria micrococcus I have had a personal experience. Some membrane was secured from the throat of a child during the operation of tracheotomy to relieve stenosis caused by diphtheria, and with it one of my hermetically sealed culture bulbs (made after Sternberg) filled with a sterilized nutrient fluid, was inoculated. On the fourth day the liquid, previously clear, became turbid, and, on examination with the microscope at about 1000 diameters, it was found swarming with micrococci in active motion about the size of the micrococcus of pus. In form they were slightly elongated, and although found singly, were generally in groups of three or four to eight or twelve. A second bulb was inoculated with a fraction of a drop from the first; it became turbid on the third day, and was found to contain a microorganism identical with the former. In this way about fifty bulbs were used, and the cultivation was carried through ten generations, each bulb becoming turbid on the third day, and the micrococci breeding true.

With the contents of one of the bulbs containing the sixth cultivated generation of the micrococci, six guinea pigs were inoculated in the cornea of the eye. One of them died about thirty hours later, with symptoms of blood poisoning; but the rest survived. The eyes became very

sore, the lids being much swollen and cedematous, and a membrane developed over the cornea. There was profuse discharge, which contained abundant micrococci. Three pigs were killed on the third day, and the eyes dissected for examination. The others were allowed to get well, but the eyes were completely destroyed. In the aqueous humor, and in the corner of the eyes examined, were found minute, highly refractive particles of uniform size, presumably micrococci. On the third day after killing the guinea pigs, I myself had a sore throat, and in twelve hours a large diphtheritic membrane had developed on the left tonsil, accompanied with high fever and constitutional symptoms. The disease ran a typical course, and convalescence was slow. Here, then, we have the chain of events complete. A fatal case of diphtheria, from which the germs were cultivated in pure cultures through ten generations, and the inoculation of the animals from which the experimenter himself contracted the disease with development of membrane containing micrococci, which reproduced themselves in cultures.

The question as to the origin of life has been much disputed, and the exponents of spontaneous generation and of the germ theory still continue the contest.

Extremists in the doctrine of evolution cannot sustain the hypothesis that the whole system of animal life is but a growth of one or more original species, changing into or evolving others through methods of development. The long ages of the past show the universality of the law of life, that like produces like.

Neither the agnostic nor the materialist can account for the origin of matter, much less can they account for the origin of mind. Naturalists tell us that while the animal and vegetable kingdoms are reducible to primoidal cells; that while there is a time when the embryos of species cannot be distinguished from each other by any essential features, yet the variety of structural forms, and the diversity of physiological functions which cells develop, are always according to the special type and construction of their parent cells; evidencing a unity of plan in their construction and development.

1. The germ theory asserts that no life has been evolved (except in the remotest periods of the earth's history) other than from a living parent or a living germ.

2. The spontaneous generation theory asserts that now, as of old, life does also spring *de novo* from molecular rearrangements of the atoms of dead organic matter.

No authority, except that of experimental work, can weigh a feather in the balance; no *a priori* reasoning can give the victory to either creed. The one condition is, to take dead matter, isolate it from all contact with life, place it

under favorable conditions for development, and watch the result.

The first views founded on experiment and observation, apart from mere philosophical speculation, are those of Needham and Buffon, published in 1748. Needham's theory was that vitality is produced by a force setting particles in motion, which he calls *force végétatrice*. Needham was opposed by Spallanzani, in 1777, who repeated his experiments by methods so precise as to overthrow the convictions based on Needham's labors. Schultz made an important advance by boiling his infusions and using pure air, and was followed by Schwann, Schroeder and Von Dusch. In 1859, Pouchet, one of the most ardent supporters of spontaneous generation, published his work. He does not look on these organisms as originating from dead matter, though he believes that it is the contact of different bodies which gives rise to the development of protoorganisms. Yet their origin is not due to affinity alone; vital force must also come into play, which owes its power to certain unknown concomitant circumstances. The essentials for the production of the new forms are, a putrescible body, water, and air, while heat, light, and electricity favor the process. His experiments were performed very loosely, and are subject to many errors.

Appearing shortly after Pouchet's work and leading to diametrically opposite conclusions, were the researches of M. Pasteur, who begins by attempting to demonstrate the existence of spores in the atmosphere. The greatest blow was given to the views of the heterogenists when Pasteur demonstrated that albuminoid materials are not necessary for the development of bacteria and fungi, but that they can be replaced by crystalline salts, such as phosphates and the salts of ammonia.

The experiments of Prof. Jeffreys Wyman have been largely quoted by the supporters of heterogenesis as proving their view, though Wyman himself expressed no such opinion, having approached the subject with a perfectly unbiased mind. To Prof. Wyman is ascribed great credit by Cheyne, whose results agree with his own.

Dr. Bastian (1872) gives up the theory that organic molecules are derived from previously living molecules and attempts to demonstrate that vital force and living matter may arise *de novo* under the action of the ordinary physical forces—heat, light, and electricity. This change of front on the part of the heterogenists is clearly brought about by the overwhelming evidence produced against Pouchet's views, and more especially by Pasteur's success in cultivating organisms from dust in fluids containing no organic matter.

The limitation of cases of spontaneous generation which has been gradually taking place is very instructive. Beginning with the higher

animals it became more limited, frogs, flies, etc., being by degrees excluded, till now it is only in the case of the lowest forms of life that the doctrine is asserted, and even then only in certain cases.

Not long since the people of Boston were invited to listen to a series of lectures which continues the discussion of the much-disputed question of the origin of life. The lecturer, although announcing himself as a decided opponent of the germ theory, could not agree with the spontaneous-generationists, and offered views somewhat peculiar to himself. His objective point was the so-called "*ambient organic matter*," of which he could give no definition, but in a long series of illustrations of what he meant, he showed it to be synonymous with the *bioplasm* of Dr. Lionel Beale. The term *bioplasm*, as Dr. Beale says, involves no theory as regards the nature or origin of the matter. It simply distinguishes it as *living*, e. g., a living white blood corpuscle is a mass of *bioplasm*, or it might have been termed a *bioplast*; a very minute living particle is a *bioplast*, and we may speak of living matter as *bioplasmic substance*. It is *bioplasm*, or *ambient organic matter*, according to the new view, that is at the bottom of all the functions of life, it having, to a certain extent, a low degree of inherent vitality; and the results of the various experiments that have been performed are due to the *ambient organic matter*, which has never yet been separated, it was urged, from the germs.

It was argued that the germ theorists can prove nothing till they can isolate an organism on a needle-point and use it for inoculation, after thoroughly washing and drying. Floating dust of the air, he added, is not germs, but *ambient organic matter*. He also expressed a desire to introduce some *ambient organic living matter* into the infusions and see what it would do.

Hearing it so strongly urged that we have been mistaken concerning the action and importance of the minute organisms which have made up what they lack in size by the interest they have awakened during the last quarter of a century, it occurred to me that such a theory would be of more value if accompanied by facts based upon actual experiments, but no such experiments were offered to prove the theory, which was allowed to stand by itself. In these days a theory is accepted for what it is worth, and when it relates to science it must be supported by facts. Not considering this theory capable of self-support, and not content to leave the subject in this way, I have still further investigated it.

I am reminded of Prof. Tyndall's experiments with hermetically sealed tubes. One hundred and thirty tubes were used, and to multiply the chances of spontaneous generation they were filled with infusions of the most diverse materials (in all numbering twenty-four). Each tube con-

tained an ounce of liquid and was boiled for three minutes in an oil-bath, and sealed by a spirit lamp during ebullition. Two months later this group of flasks was submitted to the inspection of the Royal Society and not one of them was found to contain life. That the infusions were not degraded by boiling was proved by similar exposed tubes which "resolved themselves with the usual speed into bacterial swarms." Special care had been taken that the temperature to which the flasks were exposed should include those previously alleged to be efficient. The conditions laid down by the heterogenist were accurately copied, but there was no corroboration of his results.

Again, sixty flasks were thus prepared containing strong infusions of beef, mutton, turnip, and cucumbers, carefully packed in sawdust and carried to the Alps, 7000 feet above sea level. Fifty arrived safely, of which twenty-three were opened on a hay-loft, and the other twenty-seven, 200 feet higher, on a ledge overlooking the Aletsch glacier. The fifty flasks, with necks open, were then placed over the kitchen stove at a temperature of 50° to 90° F. In three days twenty-one of the twenty-three opened in the hay-loft were invaded with organisms; but after three weeks' exposure not one of the twenty-seven opened in the free air had become contaminated. No germ from the kitchen air had ascended the narrow necks, the flasks being shaped so as to avoid this contingency.

Sir Joseph Lister's experiments with milk prove a great deal against the view of spontaneous generation. In his attempts to obtain pure unboiled milk, he found that in none of his flasks did he obtain lactic fermentation, but that in all but two (out of some fifty or sixty flasks), organisms of some form or other occurred, these organisms being in many flasks of totally distinct kinds. The fact that no organisms appeared in two flasks, and the great variety developed, prove that they could not have been developed *de novo*; for all being made under the same conditions any change occurring in one due to something inherent in the milk, or due to some physical force acting on it, would have occurred equally in all.

We have then a great number of experiments made by distinguished observers, of which I have quoted only a few, which show that life does not commence in substances unless something living exists in or has access to them. No one will deny the existence of the bioplasmic or ambient organic matter, but I must believe that it plays a far different rôle than was ascribed to it by the lecturer, and I also believe that the *germs* exist and play their part.

If we examine fresh blood serum, the aqueous humor of the eye, white of egg, or milk, we will find, with high powers of the microscope (1000 x),

in greater or less quantity masses of varying size and shape, made up of minute, shining, highly-refractive particles, with or without Brownian motion, which have a low degree of inherent vitality, and which are bioplasmic or ambient organic matter. No one with any experience is likely to mistake these for the minute, highly-refractive bodies of uniform size, single or in groups, which we recognize as micrococci or bacteria.

These substances, then, containing the ambient organic matter in sufficient quantity, and being free from germs, were selected for testing in the experiments which I made to see if the extraordinary statements of the lecturer had a basis of fact.

Fresh blood was caught in flasks at the abattoir, as it flowed from the necks of the animals, and was sealed up until the clot had separated. Bulbs (see tables) similar to those mentioned above, sterilized by heat, were then filled with the serum, and to the culture bulbs containing sterilized nutrient fluid, serum was added in varying quantity, and the bulbs were hermetically sealed. Milk was carefully drawn from the cow into a flask sterilized by heat, from which culture bulbs were inoculated. Bulbs were filled and culture bulbs inoculated from the white of an egg still warm from the nest, and also the aqueous humor of the eyes of freshly-killed sheep. The substances introduced into the bulbs were never boiled, because it was argued that the boiling of the infusions is unfair, by rendering them sterilized, barren, and almost inorganic.

These bulbs were kept at a temperature of about 70° F., and examined with the microscope after varying intervals. Of the forty-five bulbs (see tables), forty-four remained perfectly clear and pellucid, and the microscope revealed the same bioplasmic masses as the fresh materials. In only one were there any signs of life, and this a bulb that had been inoculated with serum, was found to be undergoing fermentation, and was swarming with the germs of putrefaction, bacteria termo, proving it to have been accidentally contaminated.

In the control experiments these materials, *exposed to the air*, under the same conditions, give a far different history, as they rapidly underwent fermentation, and then contained, in addition to the same bioplasmic masses, the germs of putrefaction. Such, then, is the effect of bioplasmic or ambient organic matter, *plus* the germs, at a temperature of 70° F. Alone, however, although upon the germinal qualities of it so much has been suggested, not only does it fail to generate life, but it has no power of reproduction, and is at best an organic nutrient material, serving the highest purpose for bioplasmic use, but having in itself absolutely no independent power of growth.

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3. The same symptoms; chills, vomiting, rapid rise of temperature, etc., with the same general symptoms of a sudden intoxication.

5. The inability, in a great many cases, of the physician to say whether he has to do with lymphangitis or with erysipelas, or with a combination of both, as the disease begins sometimes in one form, sometimes in the other.

To these numerous and powerful arguments Messrs. Verneuil and Clado add another which, based upon microscopical observation, is absolutely decisive: the discovery in lymphangitis of the erysipelas microbe. This discovery, in the cases which the authors observed, combined with the results of the pure cultures and inoculations made by them, led them to the following conclusions:

1. Erysipelas and lymphangitis are simply different forms of the same contagious, infectious, parasitic disease.

2. Their agent is a special microbe which may be easily recognized, isolated, cultivated and inoculated upon animals.

3. This microbe, which had been discovered and described in erysipelas only, is also found in acute lymphangitis with all its proper qualities and characteristics.

4. It establishes, therefore, the absolute identity of two affections which, by numerous authors, have been considered so far as different diseases. —*La Semaine Médicale*, 1889, No. 16.

MEDICAL PROGRESS.

ON THE IDENTITY OF ERYSIPELAS AND ACUTE LYMPHANGITIS. — VERNEUIL and CLADO, after many microscopical experiments, say on this subject: Erysipelas and acute lymphangitis are two affections, closely related to each other, which are best and most frequently observed on the surface of the body, the nature and relations of which have often been discussed without all perfectly agreeing on these points. Some consider them one and the same disease, or at the most two forms of the same disease; others separate them entirely, although admitting that they may exist at the same time and become one.

Those taking the former view (among whom are Verneuil and Clado) advance the following arguments:

1. They have the same anatomical seat in common; lymphangitis occupies the trunk, and erysipelas the branches of the lymphatic system; both invade the ganglions.

2. The similarity in the pathological process; the two affections present, wherever they are visible, the principal symptoms of a true inflammation.

3. The same starting-point in an interruption of the continuity of the skin surface,

PAGET'S DISEASE OF THE NIPPLE.—DR. J. DARIER declares that follicular psorospermiosis is not the only affection of the skin caused by parasites of the class sporozoe. Another, which differs from the first named and is caused by another kind of psorospermæ, is Paget's disease of the nipple. In 1874 Paget called attention to a chronic affection, apparently eczematous, of the skin of the mamma and aureola, which is almost always followed by cancer of the breast: The numerous authors who have since published such cases, enumerate as characteristics of the eruption which distinguish it from common eczema: its limitation by a well defined line, the parched induration of the skin, the absolute incurability, and finally and especially the complication, after a shorter or longer period, by a cancer. Histological examinations by Bultin, Fhlin, Duhring and others did not explain the nature of the affection, which some have since regarded as an eczema which extended to the milk channels, and others as an unknown disease *sui generis*. Darier thinks that the following facts will render it possible to understand the peculiarities as yet unexplained of this type of disease.

If some of the scales are taken from the diseased surface and dissolved in water or in a solution of iodide, whether directly or after maceration in diluted ammonia or bichromate of ammonia, small round bodies, surrounded by a refracting

membrane with double contour, are at once discovered among the epithelium cells and often in their interior. These bodies have a diameter which is larger than that of the cells or equally large; their membranes contain a mass of protoplasm or of more or less numerous corpuscles. These bodies are always found in sections or fragments of the excised skin, in all the layers of the epidermis, and especially in the glandular prolongations of the epidermis. The character of these bodies admits the conclusion that we have to do with psorospermæ or coccidix. They are present in all stages of evolution; a mass of protoplasm, at first naked, subsequently surrounded by a membrane, divides itself later on into numerous granules enclosed in a cyst.

The epithelioma of the mamma contains similar parasites, and also a large number of elements which cannot with certainty be distinguished from epithelial cells, but which are often enclosed in other cells. Bultin, who saw this in 1876, thought it an instance of endogenesis. The parasites are probably more numerous than they appear to be. That they play a part in the formation of the tumor seems probable, since there is in each lobe a certain number of coccidix in their characteristic form.

It is a well-known fact that the presence of these organisms in the tissue of the epithelium produces a budding and extension of it; it is known from the psorospermosis of the gall ducts of the rabbit, and Darier demonstrated it in the follicular psorospermosis in man. Mr. Albarran quite recently exhibited epithelioma containing coccidix, and further demonstrations of this kind will soon be quite numerous. It is, therefore, logical to suppose that the parasites which produce the epidermic lesion in Paget's disease of the nipples, cause also the epithelial growth of the milk channels which constitutes the epithelioma.

The above facts appear important from different standpoints. Paget's disease of the nipple is a parasitical affection, a psorospermosis; its diagnosis becomes easy by microscopical examination of scales such as Darier made in four cases. Then also, this disease furnishes a first indication of the nature and the pathogeny of certain epitheliomas. —*La Semaine Médicale*, 1889, No. 16.

DURATION OF VITALITY OF TYPHUS AND CHOLERA BACILLI IN THE FÆCES.—PROFESSOR DR. J. UFFELMANN, of Rostock, on the basis of experiments tending to solve this question, which largely agree with those made by Kitasato, has come to the following conclusions:

In human feces, that is in human feces and urine, the cholera bacillus retains its vitality for four days at the utmost, if these feces are kept, as usual, in privies or in large kegs or tubs. As a rule it dies much sooner, generally with the second or third day, often even on the first day.

It seems to retain its vitality longer in a mixture kept at a temperature of more than 16° than in feces kept at a lower temperature than 9°. It can also be found for a longer time in those feces to which it was added in large numbers, than in those which contained but few. Whether the addition of urine hastens the end of the bacillus the author is not able to say. But the fact is of importance that it retains its vitality for at least twenty-four hours.

As regards the typhus bacillus, it was found to possess great power of resistance. Under certain conditions it retains its vitality for four months; it may even be assumed that it may last much longer, even since it existed in certain samples in large numbers at the expiration of that period. But its vitality in the feces is not always the same; different temperature seemed to have a decided effect, experiments showing that in feces kept at a temperature of 17°, or more, the bacilli increased in number, whereas with a temperature of less than 10° an increase is not to be thought of.—*Centralblatt für Bakteriologie und Parasitenkunde*, 1889, No. 16.

MENTHOL IN ASTHMA.—DR. TH. JORES, of Kastellaun, had been treating since October, 1888, a lady 50 years old who had had, in the summer of 1888, several large polypous growths removed from her nose by a specialist. When Jores took charge of the patient her principal trouble consisted in periodically (every two or three days) occurring congestions to the head, combined with difficulty in breathing. Hand- and foot-baths, purging, applications of several leeches to both sides of the proc. mastoid. gave no relief.

Gradually the congestion subsided, whilst the difficulty in breathing increased. Against these attacks, which were purely asthmatic, Jores used in the course of treatment a long series of drugs, all of which, however, were effective for a few days only. A communication in the *Allgemeinen Medicinischen Central-Zeitung* which he saw in December, regarding the favorable effect of menthol in lung disease (which effect was said to be especially on the secretion of mucus), induced him to use menthol. Whilst before the use of the drug (a 20 per cent. solution of menthol in ol. oliv.) auscultation of the lungs showed everywhere crackling and rattling noises, the trouble completely disappeared as by magic after a few inhalations; auscultation showed perfectly normal breathing, heart-beat unchanged, pulse full and strong. Patient, on being asked, simply remarked that her head felt sometimes benumbed, "as though she had inhaled chloroform without taking enough of it." Since its first application (January 2, 1889), the drug has proven effective in every attack, always with prompt success.—*Therapeutische Monatshefte*, 1889, No. 4.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, MAY 25, 1889.

A BRIEF REVIEW.

The records of the Association for forty years are nearly written. At Newport, on the 25th of June next, its Fortieth Annual Meeting will be convened. A few words with reference to its history and purposes will be of interest to those who, during later years, have become members of the Association.

In 1845 the New York State Medical Society, by resolution, "recommended a *National Convention of Delegates*, from medical societies and colleges in the whole *Union*, to convene in the City of New York, on the first Tuesday in May, 1846," and in the preamble set forth the objects of the meeting. In answer to that recommendation a National Convention of Delegates from medical societies and colleges assembled in the City of New York, May 5, 1846, and Dr. Jonathan Knight, of New Haven, Conn., was made chairman. Sixteen of the United States were ably represented in this Convention. A series of important resolutions was introduced, and after full consideration it was determined to refer them to special committees, who should report upon them at a second Convention to be held at Philadelphia during the following year.

On May 5, 1847, this second Convention assembled in Philadelphia, and Dr. Knight, of Connecticut, was continued chairman. The Convention was largely attended by delegates from nearly every State and Territory, and continued in session for three days. The various committees presented a series of able reports upon the resolutions

which had been referred to them severally at the previous meetings. These reports were fully discussed and, with such modifications as were deemed judicious, were adopted.

At the evening session of the third day of the Convention, May 7, 1847, it was unanimously "Resolved, That this Convention do now resolve itself into THE AMERICAN MEDICAL ASSOCIATION, and that the officers of the Convention continue to act as officers of the Association, until others are appointed."

A committee representing twenty-one States and the District of Columbia was appointed to nominate permanent officers for the Association. Nathaniel Chapman, of Philadelphia, was the first President elected. All the various officers were appointed, the committees were named, the business of the Association completed, and the Association adjourned to hold its first annual meeting in Baltimore in May, 1848.

The subsequent places of meeting and the Presidents in order have been as follows:

- 1848. Baltimore, A. H. Stevens, New York.
- 1849. Boston, J. C. Warren, Massachusetts.
- 1850. Cincinnati, R. D. Mussey, Ohio.
- 1851. Charleston, James Moultrie, South Carolina.
- 1852. Richmond, B. R. Wellford, Virginia.
- 1853. New York, J. Knight, Connecticut.
- 1854. St. Louis, C. A. Pope, Missouri.
- 1855. Philadelphia, Geo. B. Wood, Pennsylvania.
- 1856. Detroit, Zina Pitcher, Michigan.
- 1857. Nashville, Paul F. Eve, Tennessee.
- 1858. Washington, H. Lindsley, District of Columbia.
- 1859. Louisville, Henry Miller, Kentucky.
- 1860. New Haven, Eli Ives, Connecticut.
- 1861. No meeting.
- 1862. No meeting.
- 1863. Chicago, Alden March, New York.
- 1864. New York, N. S. Davis, Illinois.
- 1865. Boston, Constitution amended. Same officers continued.
- 1866. Baltimore, D. H. Storer, Massachusetts.
- 1867. Cincinnati, H. F. Askew, Delaware.
- 1868. Washington, S. D. Gross, Pennsylvania.
- 1869. New Orleans, W. O. Baldwin, Alabama.
- 1870. Washington, Geo. Mendenhall, Ohio.
- 1871. San Francisco, Alfred Stillé, Pennsylvania.
- 1872. Philadelphia, D. W. Yandell, Kentucky.
- 1873. St. Louis, T. M. Logan, California.
- 1874. Detroit, J. M. Toner, District of Columbia.
- 1875. Louisville, W. K. Bowling, Tennessee.
- 1876. Philadelphia, J. Marion Sims, New York.
- 1877. Chicago, H. I. Bowditch, Massachusetts.
- 1878. Buffalo, T. G. Richardson, Louisiana.
- 1879. Atlanta, Theophilus Parvin, Indiana.
- 1880. New York, Lewis A. Sayre, New York.
- 1881. Richmond, J. T. Hodgen, Missouri.

- 1882. St. Paul, J. J. Woodward, U. S. Army.
- 1883. Cleveland, Jno. L. Atlee, Pennsylvania.
- 1884. Washington, Austin Flint, New York.
- 1885. New Orleans, H. F. Campbell, Georgia.
- 1886. St. Louis, Wm. Brodie, Michigan.
- 1887. Chicago, E. H. Gregory, Missouri.
- 1888. Cincinnati, A. V. P. Garnett, Dist. of Columbia.
- 1889. Newport, W. W. Dawson, Ohio.

These annual meetings have been largely attended by prominent medical men representing every section of the United States. The division of the members into Sections for the purpose of special work was early found to be a necessity. The mornings are given to matters requiring consideration in general session; the afternoons to Section work. Thus ample provision is made for the presentation of papers, and for discussion in each of the special departments. The interests of the profession at large, as well as of writers themselves, cannot be better served than by giving to these several Sections the cordial support and the best service that the profession can command. Every provision for the presentation of papers in the different departments of medicine and surgery, and for their full discussion, is as ample here as can be made for special sessions elsewhere.

Among the many important and valuable results which the Association has labored to accomplish we may name:

First. By the early adoption of a Code of Ethics which commends itself to the approval of all medical men, it has clearly defined the rules that should govern, not only among members of the profession, one with another, but also their relations with the people.

Second. It has fostered fraternal fellowship, and helped to bring into close and friendly relation the medical men of all parts of this broad Union.

Third. It has always been the earnest advocate of a higher standard of medical education and in every way possible has sought to stimulate original investigation.

Fourth. Its influence has always been helpful to our medical colleges—and it has favored the maintenance of medical societies, both State and local, everywhere.

Fifth. For the purpose of assuring the closest possible relations with the masses of the profession—it even commits its own management to their delegates, as they shall come fresh from the local societies to express their will, from year to

year, rather than to permanent members, who might in time misrepresent their constituencies.

The Association is in accord with the genius of American institutions. It is National in its representation, and never sectional in interests. It is in no sense exclusive, and yet makes ample provision, for those who by reason of talent and culture, may best serve the profession as instructors and guides. More than at any previous time it commends itself to the cordial support of the profession, and it is to be hoped that it will continue to command the services of the ablest men in the profession for the furtherance of the interests of Medicine in America.

THE LICENSE TO PRACTICE.

In THE JOURNAL of May 11th, was given the able address on this subject, delivered to the Medico-Chirurgical Faculty of Maryland recently, by PROFESSOR WILLIAM OSLER. It contained a fair exposition of the evils that have resulted from leaving the whole control of medical education in this country to a large number of Medical Colleges, subject to no uniform regulations, but each authorized to grant the degree of Doctor of Medicine on such terms as its Faculty might deem proper, and yet, until quite recently, such degree or diploma was a sufficient authority to practice medicine and surgery in all the States.

The author of the address correctly states that, "the *right* to regulate the practice of medicine rests with the State." And he might have added, that the highest judicial tribunal known in this country has recently decided "that this right comes within that general *police power* which extends protection to the life and limb of the citizen." We are pleased to find him clearly and unreservedly advocating the establishment in each State of a competent tribunal, or examining board, to *examine* all candidates for license to practice, without regard to college diplomas. Whether such Board of Medical Examiners are appointed by the Governor, with the approval of the Senate, or by direct election by members of the medical profession, allowing every person legally authorized to practice, to cast a vote, we think of far less importance than the terms of the law by which the Board shall be guided in the discharge of its duties. No State Board of Examiners, however appointed, will succeed in effectually pro-

protecting the people from the depredations of ignorance and imposition, unless the law explicitly defines the minimum standard of general education necessary to qualify one to enter upon the study of medicine: and the minimum standard of medical acquirements, both theoretical and practical, necessary for safely entering upon direct practice. With these standards well defined, the State Board becomes an executive body for efficiently and impartially enforcing compliance with the provisions of the law. The law itself should state the minimum length of time each person should devote to the study of medicine, embracing all its departments, and how much of that time should be in direct attendance on medical college, practical laboratory and hospital clinical work.

The powers and duties of a Board of Medical Examiners should be purely executive and not legislative. The only legitimate object for which legislative interference with medical education and practice can be justified, being to secure for the people an educated and competent body of medical men, it is plain that the law must provide but one standard of qualifications and one uniform system of examinations for all. We cannot agree with Professor Osler, and many others, that the important department of materia medica and therapeutics might be either omitted from the examinations, or the applicant for license be permitted to choose which so-called system of therapeutics he will be examined in. On the contrary, every applicant should be examined and required to furnish evidence of having a fair knowledge of all systems. No student of regular medicine should be licensed to practice unless he also understands clearly the distinctive facts and principles of homeopathy, eclecticism, and every other medical *ism* that he is to come in contact with among the people. And no student of any one of these pathys or isms should receive a license to practice unless he is also possessed of a good knowledge of regular therapeutics as practiced by more than nine-tenths of the medical men of Europe and America. How else can any young man or woman, proposing to enter upon the practice of medicine, possibly judge what remedies and what principles guiding their application, are best and most efficient in relieving human suffering, if they have studied less than half the field, and even that under strong partisan bias? If the State undertakes to secure for the people an educated

medical profession, its laws should define clearly the standard of education required for all, and provide an efficient and impartial Board of Examiners to enforce it alike on all applicants. Then every person having passed the ordeal satisfactorily, must be allowed to exercise the most perfect right of private or individual judgment in the application of his knowledge in the practice of any or all departments of his profession.

GOOD SENSE AND CORRECT LAW.

The New York Medical Times recently proposed the following question to HON. GEO. E. BARRETT, Judge of the Supreme Court of New York: "Has a physician designating himself a 'homeopathist,' and called as such to a patient, any legal or moral right to adopt any other than homeopathic means in the treatment of the case?" To which the judge gives the following unequivocal answer:

"If," he says, "I call in a medical man who designates himself as a 'homeopathic physician,' it is because I do not wish to be treated otherwise than homeopathically. There is an implied understanding between myself and the homeopathist that I shall receive the treatment, which, by tradition and a general consensus of opinion, means small doses of single drugs administered upon the principle of *Similia similibus curantur*. If there be any variation from that method, I have a right to be informed of it, and to be given an opportunity to decide. Common honesty demands that before a confiding patient is drugged with quinine, iron and other medicaments, either single or in combination, he should be told that the 'homeopathist' has failed, and that relief can only be afforded by a change of system. An honest 'homeopathist,' who has not succeeded, after doing his best with appropriate remedies administered on homeopathic principles, should undoubtedly try anything else which he believes may relieve or save his patient. But when he reaches that point the duty becomes imperative of taking his patient into his confidence. The patient may accept the services of the homeopathist, or he may prefer another physician.

"All this is the logical sequence of a man calling himself 'homeopathist.' If I call in a man who is known simply as a physician, then I expect him to employ any or all means he may deem

necessary for my relief. With such an expectation I called for his aid. Hence, if we are to have a class of men who propose in the interest of humanity to utilize the best that they can find in any or every school, 'pathist,' as a designation of fixed methods of practice, must be ignored, and the broad and noble title 'physician,' in its unreserved sense, be revived and substituted. When a patient sends for a physician of this class, he will understand that he is to have the physician's best judgment in the unprejudiced use of the ripest fruits of modern discovery in every field."

How much longer will it require to enable law makers and the people generally to see the folly and absurd exclusiveness of the special designations assumed by persons claiming to practice medicine?

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting, January 23, 1889.

THE PRESIDENT, CHARLES E. HAGNER, M.D.,
IN THE CHAIR.

DR. GEORGE N. ACKER presented

TWO CASES OF TUBERCULAR PERITONITIS, WITH SPECIMENS.

Case 1.—Joseph Brown, æt. 4, colored. Residence 427 O street, alley. Father and mother both living and apparently healthy. Child was perfectly healthy up to six months ago, when he was taken with measles, which left him weak and with a cough. Three days ago was taken with diarrhoea, from three to six movements daily, for which he was admitted to the hospital August 22, 1888.

Present condition.—General appearance much emaciated, abdomen pendulous. Temp. 99.5°. Has a dry hacking cough, with fine moist râles over both lungs anteriorly and over left lung posteriorly. Respiration 30. Tongue coated white, thirst, anorexia, pain in epigastric region, diarrhoea, one to four movements daily, character of stools yellow with white flakes. Abdomen very tympanitic.

August 24, temp. subnormal (96.5°-97°), perspires profusely, one movement of bowels in last twenty-four hours.

August 26, temp. still subnormal, three dark watery stools.

August 28, stools formed, no diarrhoea. Temp. subnormal.

August 30, general condition better.

September 5, gradually improving. Evening temp. 99.1°; morning 97.4°.

September 10, from one to two passages of bowels in twenty-four hours. Temp. again subnormal. General condition much better, allowed to sit up.

September 20, general condition much better, allowed to get up and go about the ward. Temp. about normal.

October 1, apparently well except the distended abdomen.

October 15, boy has some cough but allowed to go about the ward.

October 26, cough continues. Physical examination shows dulness at left apex ant. Broncho-vesicular breathing with fine moist râles over left apex ant. Patient put to bed.

November 1, temp. a little above normal.

November 7, patient is becoming emaciated, cough somewhat exaggerated, perspires profusely at night, abdomen much distended.

November 17, since the 7th has had from one to four passages from the bowels in twenty-four hours. Temp. ranges from normal in the morning to 102° in the evening.

November 20, evening temp. 102.5 to 103°.

November 24, abdomen enormously distended.

November 28, patient is gradually growing weaker. No treatment seems to relieve the tympanitic condition of abdomen. Very restless at night.

November 30, temp. ranges from 99°-100°. No apparent change in condition. Has from four to five stools daily.

December 3, a consultation was held, when the following physicians were present: Drs. Lovejoy, King and Dr. Acker, including the attending surgeon, Dr. Thompson. A laparotomy was suggested, but as no fluid could be detected in the peritoneal cavity Dr. Thompson thought an operation would be useless.

December 10, no apparent change except more emaciated.

December 20, temp. normal, patient very weak.

December 27, evening temp. 101.4°; morning 101°.

December 29, abdomen considerably reduced in size.

January 1, 1889, died 10:15 A. M., from exhaustion.

Necropsy held twenty-four hours after death; rigor mortis slight, general appearance much emaciated, enlarged lymphatic gland left groin. On opening the chest numerous adhesions were found in left pleura, due to the deposit of tubercle. The left upper lobe was thickly studded with tubercular masses, lower lobe presented decided thickening of the walls of the bronchial tubes, probably due to free-bronchitis. Over anterior surface of left lung small portions were

found to be in a condition of atelectasis. Right lung normal except in a state of passive hyperæmia. Diaphragm and capsule glisson were the seat of caseous masses about one-fourth of an inch in diameter. In the umbilical region the paired layer of peritoneum was firmly attached to the mesentery by numerous adhesions, and could only be separated with considerable force. No fluid was found in the peritoneal cavity. Spleen slightly enlarged. Other organs normal.

Case 2.—Ida Samson, æt. 2, colored. One year ago was taken with pneumonia, which left her with a bad cough, which has continued up to the time of her admission to the hospital, November 19, 1888.

Present condition:—General appearance fairly well nourished. Temp. 100.5°. Has a paroxysmal cough, no expectoration, rapid breathing, small and large râles over both lungs anteriorly.

December 1, physical examination shows marked dulness over apex of left lung, also bronchial breathing. Cough continues about the same.

December 17, face and hands very œdematous. Perspires profusely.

December 24, swelling has nearly disappeared from face and hands.

December 28, gradually growing weaker.

January 4, died from exhaustion.

Necropsy held twenty-four hours after death: rigor mortis slight, body much emaciated. On opening thorax numerous adhesions were found on left side. The upper lobe of left lung was found entirely consolidated, small emphysematous spots were found on lower lobe, left side. A few miliary tubercles were found over surface of left lung, pleura and diaphragm. On opening the peritoneal cavity about six ounces of fluid escaped. Several large caseous masses were found in the mesentery the size of a large hickory nut. About these masses the mesentery was found to be deeply injected. Other organs normal.

DR. J. FORD THOMPSON: When he was first asked to see this patient, Joe Brown, he favored an operation; but the second time he examined the patient he abandoned the idea. He now based his opinion upon the fact that the child was nearly dead, and that it had a resonant and tympanic abdomen. There was no dulness and he could not detect fluid. He could not see what an operation would accomplish. Dr. Acker favored an operation. He had never seen such an extensive tubercular disease in the abdomen; the intestines were adherent as one mass, and there was not a spot that he could find to contain the fluid that was supposed to have been in the abdominal cavity. From the enlarge mesenteric glands and the enormous deposits in the mesentery he unhesitatingly called it *tabes mesenterica*. What could an operation have accomplished in such a case? The intestines were so adherent

that Dr. Dillenbach tore them in getting them out. The absence of fluid in the abdominal cavity proved this to be an exceptional case. Dr. Acker reports a case which is wholly unlike this, in which the surgeon operated for a cystic tumor. Any surgeon would have operated in that case. Had he operated in Dr. Acker's case he would have had the credit of killing the child.

DR. ACKER: The glands were not enlarged as much as we usually find in *tabes mesenterica*. It was undoubtedly tubercular enlargement. Dr. Thompson had contended that the mesenteric glands were greatly enlarged, but Dr. Lamb had confirmed his (Dr. A.'s) statement that they were only enlarged about as much as is usually found in tuberculosis. Dr. Thompson had seen this patient a month and a half before she died, and it was then that Dr. Acker thought that he detected fluid in the peritoneal cavity. He now believed that this fluid had been absorbed and passed by the numerous stools which she had been having daily for sometime prior to death. If the child had been operated on about December 15, when it was first seen by the consulting staff, some good might have been accomplished. The cases reported had been benefited by laparotomy.

DR. THOMPSON: Dr. Lamb's statement had surprised him very much, especially as Dr. Dillenbach had reported to him that he had torn out masses larger than walnuts. There was not a mesenteric gland in the whole specimen that was not diseased, which was apparent from microscopic examination. It would have been madness to have operated upon such a case. If he could have detected fluid he would have performed laparotomy but the abdomen was highly resonant. What would an operation have accomplished in this case?

DR. BUSEY desired to learn something more about the surgical treatment of such cases, and would therefore ask Dr. Acker to supply the clinical histories of the cases he mentioned. Had the tuberculosis invaded any other structures? In Dr. Aker's case there was also tubercular disease of one lung. Did Dr. Acker propose to operate for cure in this case? In the cases reported as operated on was there any complication, or was the tuberculosis confined to the peritoneum? Did the clinical histories of the reported cases correspond with that in Dr. Aker's case? For if simply opening the abdomen in cases of tuberculous peritonitis would cure them, it was one of the most marvelous anticipations of surgery. He could only arrive at a conclusion after knowing the clinical histories, and what was proposed by the operation. Judging from what had been said he thought it was a simple operation with a marvelous result.

DR. GEORGE WOODRUFF JOHNSTON had looked over the literature of this subject about a year ago and found 20 or 30 cases that had been oper-

ated on that were reported at the German Surgical Congress and elsewhere. There was fluid in the peritoneal cavity, sometimes encysted and sometimes free. A large per cent. were cured by the operation. That they were cases of tuberculosis was proved in many instances by the detection of the bacillus tuberculosis in excised nodes. The abdomen was drained, the wound sometimes closed and the fluid did not reaccumulate. In some drainage was the only treatment; in some the abdominal cavity was washed with a solution of salicylic acid and other antiseptics; and in still others iodoform was applied. Pulmonary lesions seemed to form no decided contra indication to the operation; in fact, after the operation the pulmonary lesion improved markedly. The operation is limited in its indications; and in certain cases it is contraindicated. Where there is fluid in the abdominal cavity the operation is indicated; and when there is no fluid present, as appears to have been the case with Dr. Acker's patient, nothing could be achieved by opening the abdomen.

DR. LAMB: In one of the specimens the glands were enlarged as much as an inch in diameter; and in the other there were tubercles and fibrous tissue.

DR. THOMPSON agreed perfectly with Dr. Johnston. There was no place for fluid in this patient's abdominal cavity. The operation may be justifiable in some cases and not in many others.

DR. ACKER: The tubercular process was limited to the left lung of this patient.

DR. M. F. CUTHBERT presented for Dr. J. Taber Johnson:

I. VAGINAL HYSTERECTOMY: NOTES OF A SUCCESSFUL CASE.

2. OVARIAN TUMOR: NOTES OF THE CASE.

Mrs. B., white, æt. 53, mother of five children, all living, had been treated for cancer of the uterus for several weeks by Dr. N. S. Lincoln. Dr. L. referred her to me for operation the last week in November, 1888. As there was no odor to the discharge I consented to receive her in my private hospital, and at once operated for the removal of the entire uterus.

The operation was difficult on account of the almost complete destruction of the intravaginal portion of the cervix. When the vulsellum was applied it would tear out of the friable cervical tissues, making the separation of the bladder and rectum very tedious. The main point of interest in the operation was the use of the pressure forceps to control hæmorrhage instead of ligatures, as recommended by Péan, of Paris, Dudley, of Chicago, and others. The use of Keith's long-bladed and long-handled forceps made it unnecessary to use more than one pair on each side of the uterus. Dudley, in his recent paper, states

that, in one operation, as many as seventeen pairs of small pressure forceps were left dangling from as many bleeding points.

Wathen, of Kentucky, recently reported a case to the Southern Gynecological Society in which he operated successfully, there being about twenty forceps applied to bleeding points and protruding from the vagina. Some operators remove the forceps in twenty-four hours, while others leave them on three days. I left mine on as long as precedent permitted, and finally removed them on the third day with some fear and trembling lest uncontrollable hæmorrhage should follow. None occurred, and the patient made an uneventful recovery and left the hospital for home on Christmas day, just three weeks from her operation.

She had no shock following the removal of her uterus, and her speedy convalescence was marked by less trouble than frequently follows Emmet's operation for a lacerated cervix. She has since continued well except some irritation of the bladder which troubles her principally when she stands or walks too much, when she feels "a drawing or pulling sensation, as if something had healed crooked," as she says. I presume the bladder misses some of its support when she stands erect. I used no sutures in any of the tissues, and no dressing except a little iodoform gauze in between the forceps in the vagina. I have now done this operation four times, with two deaths and two recoveries.

One advantage claimed by Reamy and others for the use of the pressure forceps over the ligature in this operation is, that the tissues grasped by their blades, as well as that above them, all sloughs away, thus destroying more tissue than the ligature, and rendering the return of the disease less liable to occur on this account. They are much more easily and quickly applied than ligatures, and at the same time ensure better drainage; and as time and drainage are important factors in vaginal hysterectomy, the use of the pressure forceps would seem to be an important improvement in this difficult and dangerous operation.

Mrs. S., white, German, æt. 42, the mother of five living children, was referred to me by my friend, Dr. C. H. A. Kleinschmidt, about a month ago. She had been well up to September last, when, in an ocean voyage across the Atlantic, she was made conscious of a sore lump in the right side of her abdomen. She thought that excessive seasickness had made her sore and lame.

This condition of things continued after her arrival in this city, and she consulted Dr. Kleinschmidt, who, upon examination, discovered a tumor which he diagnosed as ovarian. Its rapid growth and the pain attending it caused him to fear malignancy. When I saw it I agreed with his diagnosis and shared his fears that it might already be undergoing cancerous degeneration.

and recommended an immediate operation as the only mode of saving her life.

In the course of the succeeding month, while the family were coming to a conclusion and making the necessary arrangements for an operation, it greatly increased in size, and on account of her pain and other symptoms she was compelled to spend much of her time in bed. She was taken to a private room in Providence Hospital on the 14th of this month, and after several days of preparatory treatment she was operated on the 19th inst., in the presence of Drs. Kleinschmidt, Cuthbert, Crook, Sellhausen, Schneider, Van Rensselaer and others. The usual incision was made, the cyst was tapped with Tait's trocar and about 10 quarts of very dark-colored fluid withdrawn. The cyst was multilocular, and before it could be withdrawn several smaller cysts were also tapped, discharging different kinds of fluid, some of it being thin, of a light straw-color, and some of it being a thick colloid material which would not flow through the trocar.

The cyst wall was so firmly attached to the omentum that a number of ligatures were required to control hæmorrhage after its separation. There was quite a firm adhesion to the parietal peritoneum on the left side, which was probably the cause of the pain from which she had suffered. The pedicle was at first clamped with three of Keith's long blade pressure forceps, and the tumor cut away from its very broad pedicle. The omentum was then drawn out upon the abdominal wall, carefully pressed with hot sponges, ligatures applied to several bleeding points, and carefully returned. The abdominal cavity was thoroughly washed out with several pitchers of filtered hot water, the pedicle was transfixed, ligated, trimmed and dropped. No further bleeding having occurred, the abdominal wound was closed in the usual way and the usual dressings applied. The fluid and solid parts of the tumor were found to weigh about 30 lbs. The other ovary, being normal, was not removed. The patient is now in the latter part of her fifth day and bids fair to make a good recovery. I should be glad if the microscopical committee would kindly examine the solid parts of the tumor and report upon the question of malignancy.

Tennessee State Medical Society.

Fifty-Sixth Annual Meeting.

FIRST DAY—MORNING SESSION.

The Tennessee State Medical Society met in its fifty-sixth annual session in the Senate Chamber of the State Capitol on Tuesday, April 30th ult., with the largest attendance that it has ever had during its existence, no less than 185 members

being in attendance. All parts of the State, the eastern, western and middle divisions were ably represented by earnest, able and progressive members of the profession.

The Society was called to order at 10:30 o'clock by the President, Dr. T. J. Happel, of Trenton. Secretary, Dr. D. E. Nelson, of Chattanooga, and Treasurer, Dr. Richard Cheatham, of Nashville, were in their places. Drs. Charles M. Drake of Knoxville, and C. W. Beaumont, of Clarksville, Vice-Presidents for East and Middle Tennessee respectively, were present. Dr. D. D. Saunders, of Memphis, Vice-President for the Western Division, was absent.

Prayer was given by Rev. Dr. Scroggins, of Mexico.

DR. G. C. SAVAGE, Chairman of the Committee of Arrangements, made remarks concerning railroad rates and entertainment.

A recess was taken to allow the Committee on Credentials, composed of Drs. W. T. Briggs, J. P. C. Walker and G. W. Drake, time to prepare a report.

DR. J. S. CAIN, in the absence of Chairman Saunders, of the Committee on Legislation, made a verbal report of that committee. He detailed the progress of the medical regulation bill in the Legislature, and spoke favorably of the law. He believed it could be made effective if a proper, judicious committee would watch its operations and from time to time report recommendations of changes. He submitted a resolution setting forth, that as the law, while in many respects is imperfect and objectionable, it is a step in the right direction, and if judiciously administered will result in the correction of many of the evils from which the profession and the public suffer; that in the opinion of this Association, it is a duty incumbent upon every reputable physician in the State, to lend his aid and influence to the faithful enforcement of the law, and to strive to obtain such future legislative amendments as may render the same most efficient in elevating the standard of honorable medicine in our State, and in protecting the public against the evils of ignorant quackery: further, that the Association repudiates the term *Allopath*, which by some means gained admission into the said Act as a term of contradistinction from *Homoeopath* and *Ecclectic*, respectfully declining to be side tracked with these dogmatists upon an exclusive "pathy," and re-asserting the broad dominion of regular or honorable medicine as embracing the entire field of medical agencies.

The report and resolutions were adopted.

DR. C. W. BEAUMONT, of Clarksville, said the law was now upon the statute books as a result of forty years' labor, and no matter how imperfect it might be, it should be made as effective as possible, and the way to do so was by wise and judicious administration.

He offered a resolution which provided that the President of the Society should appoint two members from each grand division of the State, who, with himself, should act as a committee, to select four members of the Medical Examining Board, and suggest the same to the Society at 11 o'clock next day, and that the Society suggest these names to the Governor for appointment.

After some further discussion the Society adjourned to 2:30 P.M.

AFTERNOON SESSION.

The Society was called to order at 2:30 o'clock and the discussion of Dr. Beaumont's resolution continued.

DR. G. W. DRAKE, of Chattanooga, moved to amend Dr. Beaumont's motion so as to provide for the nomination of three examiners instead of four.

DR. GARDNER, of Dyersburg, said the mass of the people in his section were opposed to having the State regulate medicine, and he thought the Governor should be allowed to make his own appointment without interference from the Society.

DR. DUNCAN EVE favored the acceptance of the amendment and the nomination of a committee to select three Examiners.

DR. DEERING J. ROBERTS stated that the medical regulation bill was now a law. He was a law abiding citizen of the State of Tennessee, and would endeavor to abide by its laws. While the enactment was not such as was desired by the most ardent advocates of "Protection for Medicine," it was the law of the land, and he believed that the best plan at present was to keep our hands off, and as good citizens abide by the law. It had its objectionable features, as admitted by the representative of the committee to whom was appointed the duty of looking after its enactment. It had been accepted by the Society by a vote that is now on our minutes, and it seemed to him that it was now at least, as it had ever been, incumbent on us to keep our hands off. To take any further action in regard to it, other than to obey the law as it stands may evoke a question that had best not be raised.

Drs. Lipscomb, Powell and Menees made vigorous arguments in favor of the appointments.

The motion was put and carried. Drs. Deering J. Roberts and W. F. Glenn asked leave to file their protests, which was granted.

This question being settled, the next business was a most excellent and practical paper which was read by Dr. J. E. Reeves on the *Use of the Microscope*.

DR. C. H. LOVELACE, of Dukedom, then read a paper on *Enlarged Tonsils with a Report of a Case of Excision*, which elicited quite a lengthy discussion.

The President appointed as a committee to select nominees for Medical Examiners: Drs.

Thos. Lipscomb, C. N. Cooper, G. W. Drake, T. K. Powell, J. W. Penn, C. W. Beaumont. The Society adjourned until 8 o'clock.

NIGHT SESSION.

The night session was held as a public meeting in the Theatre Vendome. A large audience, composed of members of the Society and their friends, and many ladies and gentlemen of the Capital City were present, and a pleasant occasion had.

Music was furnished by the Italian band.

The meeting was opened with prayer by Rev. Dr. Fitzgerald.

The address of welcome was delivered by Dr. G. W. F. Price, Gov. Taylor not being able to be present.

DR. T. J. HAPPEL, of Trenton, President of the Society, delivered an able address on *Alcohol as a Medicine*.

A concert under the direction of Mrs. A. H. Stewart was excellently carried out and received much applause.

SECOND DAY'S SESSION.

The Society was called to order at 9:30 by the President.

Prayer was offered by Rev. C. D. Elliott.

DR. T. J. MURRAY, of Butte, Mont., was invited to a seat in the Association.

DR. THOS. LIPSCOMB, of Shelbyville, made a report of the Committee on Necrology, giving particulars of the death of Drs. J. M. Towler, of Maury, and H. H. Clayton, of Murfreesboro. Papers concerning each were read and filed.

THE PRESIDENT named the following physicians who had died during the preceding year, and whose deaths had not been reported: Dr. H. Lane, Calhoun; H. W. Purnell, Memphis, and B. F. Lackey, Lauderdale County.

DR. D. J. ROBERTS moved that the name of the late Dr. Thomas B. Buchanan, of Arkansas, formerly of Nashville, be added to the list. Carried, and Dr. Roberts by vote of the Society was requested to prepare a memorial of Dr. Buchanan for publication in the *Transactions* of 1889.

On motion of Dr. Plunkett the Necrological Committee was increased to one member from each Congressional District.

DR. D. E. NELSON, Secretary of the Society, submitted his report, which was accepted and filed. It showed, previous to the meeting, 254 members in good standing.

DR. J. B. MURFREE, of Murfreesboro, read an able and lengthy paper on *Diseases peculiar to Gestation*.

This article excited lively discussion, which continued about two hours. Among those discussing it were Drs. O. C. Omohundro, Thos. Menees, Thos. Lipscomb, P. H. McKinney, L.

C. Chisolm, W. A. Atchison, J. W. Maddin, Sr., W. A. H. Coop, W. F. Glenn. The paper was referred to the Committee on Publication.

DR. RICHARD CHEATHAM, Treasurer, submitted his report for the past year, showing receipts amounting to \$367.67, and disbursements of \$536.35, leaving a balance of \$168.68 due the Treasurer.

The committee appointed to suggest names for recommendation to the Governor for appointment as Medical Examiners submitted its report, making the following nominations: East Tennessee, Dr. C. Deadrick, of Knoxville; Middle Tennessee, Dr. J. B. Murfree, of Murfreesboro; West Tennessee, Dr. D. D. Saunders, of Memphis, and alternate, Dr. J. W. Penn, of Humboldt. The report was adopted.

Dr. G. W. Foster, of Stevenson, Ala., was invited to a seat in the house.

On motion of Dr. W. F. Glenn, 3 o'clock was fixed as the hour of holding the annual election of officers.

The Society adjourned till 2 P.M.

AFTERNOON SESSION.

A resolution that Dr. Thos. Lipscomb be made an honorary member of the Society, and that from and after this meeting he be exempted from all dues, was carried.

DR. PAUL F. EVE, of Nashville, read a paper on *Hip-joint Amputation*, which he illustrated by a living subject, a colored man, who, on the 10th of last October, was accidentally shot in the thigh by a 42-calibre bullet, and the amputation of whose right leg at the hip had been necessitated.

DR. ROBERTS spoke of the operation as one of the comparatively few successful cases of the kind. The paper was referred to the Committee on Publication.

DR. F. M. DUKE, of Wartrace, read a paper on *Typho-Malarial Fever*.

Three o'clock having arrived, the election of officers was taken up, and the selection of a President declared in order.

The first nomination was that of Dr. Duncan Eve, by Dr. G. A. Baxter, of Chattanooga.

DR. J. B. MURFREE, in a neat address, nominated Dr. C. W. Beaumont, of Clarksville.

The ballot resulted: Eve, 79; Beaumont, 55. Dr. Eve was declared elected and was escorted to the stand by Drs. Savage and W. F. Glenn. He was introduced by Dr. Happel. He said he would not consume the time of the meeting by a speech, but he was thankful for the honor, and would be satisfied if he should make as good a President as Dr. Happel had proven. The following Vice-Presidents were elected: East Tennessee, Henry Berlin, of Chattanooga; Middle Tennessee, Jas. B. Neil, of Marshall; West Tennessee, J. P. C. Walker, of Dyersburg. The committee appointed to audit the report of the

Treasurer reported the same as correct. Drs. D. E. Nelson, of Chattanooga, and Richard Cheatham, of Nashville, were unanimously re-elected Secretary and Treasurer respectively.

After considerable discussion, Memphis was selected as the place of the next annual meeting, to be held the second Tuesday in April, 1890.

A paper on *Laparotomy in Visceral Gunshot and Incised Wounds* was read by Dr. C. S. Briggs, of Nashville. A paper on *Heterophoria* was read by Dr. G. C. Savage, of Nashville, and illustrated by a number of patients.

The Society adjourned to 8 o'clock.

NIGHT SESSION.

The Society was called to order by the President at 8 o'clock.

The Secretary read a letter from Dr. J. R. Rathmel, of Chattanooga, regretting his enforced absence, and enclosing a paper on *Tubercular Meningitis*. This paper was referred to the Committee on Publication.

A paper prepared by Dr. J. A. Cook, who was forced to leave during the afternoon, was also handed in and referred.

DR. R. F. KEYS, of Nashville, read a paper on *the Physiological Action of Alcohol*. After some discussion it was referred to the Committee on Publication.

The next paper was read by Dr. C. W. Beaumont, of Clarksville, on *Asphyxia Neonatorum*.

DR. W. F. ROCHELLE, of Jackson, read a paper on *Long Standing Uterine Displacements Incurable: What Shall We Do With Them?*

The papers read were referred to the Committee on Publication.

At 10:30 o'clock the Society adjourned to meet at 9 o'clock next morning.

THIRD DAY—MORNING SESSION.

The Association was called to order at 9:30 o'clock by President Happel.

Prayer was offered by Rev. Dr. C. H. Strickland.

DR. T. J. HAPPEL announced that he would now turn over the gavel of office to the newly elected President, Dr. Duncan Eve. He thanked the Society for its favorable treatment of him, and said that while he had labored to faithfully discharge his duties, the unprecedentedly large meeting this session was mainly due to the efforts of the Secretary, Dr. D. E. Nelson.

DR. EVE called the body to order.

DR. L. R. MOSS moved that a resolution of thanks be tendered Dr. Happel for his excellent administration as presiding officer of the Association. The motion was seconded and carried unanimously by a standing vote.

DR. J. D. PLUNKET stated that there was in the library of the State Board of Health a printed copy of the report of the proceedings of the Med-

ical Society for 1853, which he believed to be the only one published before the war now in existence. This contained a full list of members up to that date, all the other records before the war having been destroyed.

A motion that a committee of three, of whom Dr. Plunket should be Chairman, be appointed to make a synopsis of this report for publication was adopted.

A motion that the President appoint a new name in the place of any member nominated for State Medical Examiner who might resign was carried.

The thanks of the Society were returned to the Secretary and the Treasurer, and \$50 voted to the former in some recognition of his services.

DR. DEERING J. ROBERTS moved that the Society pass a resolution requesting the Legislature at its next meeting, May 7, to pass the bill providing for the registration of births, deaths and marriages. After much discussion the resolution was adopted.

A paper on *Report of Surgical Cases* prepared by W. B. Wells, of Chattanooga, who was unable to be present, was read by title and referred to the Committee on Publication.

The next paper was read by A. J. Swaney, of Gallatin, on *The Wire Corset in the Treatment of Spinal Affections*, with exhibit. It was discussed and referred to the Publication Committee.

DR. W. D. HAGGARD, of Nashville, read a report of *Four Abdominal Sections*, one of which was a successful case of hysterorrhaphy, which was discussed at length.

A paper was read by Dr. C. N. Cooper, of Cleveland, on the subject, *Report of a Case of Self-Castration and a Case of Ovariectomy with Complications*.

DR. F. T. SMITH, of Chattanooga, made an exhibit of Surgical Instruments.

A paper by Richard Douglas, on *Hysterectomy*, was read by title and referred.

DR. W. F. ROCHELLE, of Jackson, read a paper on *Gonorrhoea and its Treatment*.

DR. T. A. ATCHISON was requested to prepare for publication his remarks on *Recent Additions to Our Pharmacopoeia*.

DR. RICHARD DOUGLAS, by request, made a talk on his recent visit to Europe.

A vote of thanks was extended the Committee of Arrangements, the press, railroads and hotels.

After announcing the following committees, the President declared the Society adjourned until the next annual meeting at Memphis:

Committee to wait on the Governor to urge the appointment of the physicians nominated by the Society for the Examining Board—Drs. G. S. Glenn, J. S. Cain and J. D. Plunket.

On Credentials.—Drs. T. J. Happel, A. P. Watterfield, W. F. Crunk, G. B. Thornton, G. A. Baxter, J. D. Plunket and M. Campbell.

On Arrangements.—Dr. D. D. Saunders with power to appoint the others.

On Publication.—Drs. D. E. Nelson, D. J. Roberts, C. S. Briggs, W. M. Vertrees, P. D. Sims, J. B. W. Nowlin and J. M. Coyle.

On Necrology.—First Congressional District, Dr. N. T. Dulaney; Second, Dr. C. Deadrick; Third, Dr. P. D. Sims; Fourth, Dr. T. M. Woodson; Fifth, Dr. Thomas Lipscomb; Sixth, Dr. J. D. Plunket; Seventh, Dr. B. J. Harlan; Eighth, W. C. Crook; Ninth, Dr. T. K. Powell; Tenth, Dr. F. L. Sims.

Delegates to the American Medical Association.—Drs. G. B. Gillespie, T. K. Powell, W. H. Harris, A. P. Watterfield, Richard Douglas, W. F. Glenn, W. J. Miller, C. N. Cooper, B. B. Lenoir, W. F. Crunk, W. K. Sheddan, B. J. Harlan, J. A. Witherspoon, J. H. Tripp, W. A. H. Coop, D. E. Nelson, M. Campbell, T. J. Happel, D. C. Savage, T. R. Moss, A. J. Swaney, N. T. Dulaney, Paul F. Eve, J. Berrien Lindsley, J. W. Penn, C. W. Beaumont, D. J. Roberts, A. B. Brown, J. B. W. Nowlin, J. D. Plunket, F. M. Hughes, J. W. Maddin and F. B. Sloan.

The American Surgical Association.

Annual Meeting, held in the New Army Medical Museum, Washington, May 14, 15, and 16, 1889.

DR. DAVID W. CHEEVER, of Boston, delivered the *President's Address* on

THE FUTURE OF SURGERY WITHOUT LIMIT.

I believe that we are warranted in saying that the future of surgery is without limit. I deduce this conclusion, first, from considering what the mind of man has already done; second, from the future possibilities of fields hitherto unknown and unexplored, but now opening up to science. There can be but two limitations, either in the mind of man or in the subject.

Since the time when in the anthropoid the cerebral lobes first began to creep over and cover the cerebellum, what a growth has taken place in the penetrating power of the human senses. The brain has progressed from the rude hammer of the prognathous cave-dweller to the telescope and the microscope. Originally of vision far less acute than the eagle's, the eye of man ranges from the fixed star to the twenty-thousandth of an inch bacteria. We analyze the sun's gases with the spectrum; we follow the magnet unerringly on the sea; we utilize the lightning; we count the vibrations of sound; we measure light; we speak across the ocean; we estimate the age of our planet; we analyze atoms; we compose new substances; we make

pictures from light ; we photograph and map the stars ; we explore the pole and test the glacial history of the world ; we find subterranean springs and light our homes from old volcanic sources ; we measure the crevasses in the glaciers of Mars ; we count tides by the moon ; we defy the wind with steam ; we foretell storms by the barometer ; we construct isothermal lines ; we inspect the bottom of the sea ; we demonstrate eclipses ; we measure space by the transit of Venus ; we predict comets ; we find a solar and a stellar unit of time ; we unravel Egyptian chronology ; we trace man downward through the stages of evolution. Man invents the wheel, the ship, the pendulum, the syphon. Under the water, in and on the earth, in the air, in the infinity of space, in the infinity of microorganisms, the mind finds no limit, but is ever-restless, ever-searching. And now in medicine, averting pestilence, annulling pain, destroying sepsis, shall we stop ?

In gradual development the brain of man has gone on, step by step, investigating itself, until we localize disease by the tracings on cerebral surfaces and condense in that wonderful cortical substance a palimpsest of impressions, mental and material. The brain studies itself. Know thyself, said the Greek, and in searching the crypts of the human brain we may well echo the description of the greatest of the sons of men, "How noble in reason ! How infinite in faculties ! In apprehension, how like a God !

We pass now to the second limitation ; in the subject itself. Long since it was said that all was found out in anatomy, and that surgery had nearly reached its limit. Far from this, the microscope has created a new anatomy and a new pathology ; physiology changes yearly ; the lower animals yield light by the Baconian test of experiment. Anæsthesia enlarged surgery ; antisepsis emboldens surgery and we can set no limits to the advance.

The three secret cavities, the abdomen, which means the hidden ; the thorax, which holds two feet of the tripod of life ; the skull, which conceals the nerve force, the vital principle, all are explored.

Medicine, always obscure, is growing clearer, and instruments of precision have been applied to our art. The clinical thermometer is the tell-tale of internal changes, inflammatory or septic. What have we to fear ? We advance haltingly, but we advance.

Specialism exhausts localities ; by its occasional discoveries enlightens medicine ; by its failures calls sometimes a halt. Specialism tempered by general medicine becomes a safe companion in our march onward.

It becomes us soberly to inquire how to study the new seats of surgical exploration. What new methods are needed ? Where must we be conservative ? Where can we be bold ? Since medicine is

composed of a science and an art, we must study the science to develop the art. The four pure sciences are anatomy, physiology, chemistry, and pathology. These purely scientific portions of our profession are the only ones that can yield positive knowledge, and this only by dissections, experiments and analyses.

Modern surgery deals with anatomical regions hitherto insufficiently studied. First, the *fasciæ*, the lining and bindings of the muscles, vessels and nerves, have great influence in determining the course of suppuration and the size and locality of abscesses. A perfect dissection and preparation of the *fasciæ* does not exist. It is, perhaps, impossible to make it. Frozen sections and their photographs give the best idea of the relations of the *fasciæ*. Familiar instances of the importance of the arrangement of the *fasciæ* are to be found in the Psoas sheath, the saphenous opening, the triangular ligament of the perineum, the deep cervical fascia, the fascia lata, the fascia of the forearm and the annular ligament, the posterior ligament, or fascia of Winslow in the popliteal space.

Next, the topographical anatomy of the viscera, especially in the abdomen, not only the variations in the reflexion of the peritoneum, but the mobility of the organs ; the rhythmic changes produced by respiration on the veins, on the diaphragm as an agent of displacement, and on the pelvic diaphragm, the perineum ; the incessant movements of peristalsis its power to change the locality of organs. All these have not been sufficiently considered by the diagnostician and by the operator. Normal splanchnology and frozen sections of the abdominal cavity are of more worth to the student than the mnemonics of the origin of all the muscles and the twigs of all the arteries. The exact relations of the mediastine to the œsophagus, aorta, pericardium and pleural cavities are of great importance also.

No less directly useful is an exhaustive and minute topography of the brain, the bearings of falx tentorium, corpus colosum, ventricles, the centers of decussating fibres, the ultimate origin of the fibres of the cranial nerves, the sinuses, the relations of the middle-ear, the petrosal sinuses, the mastoid cells and their variations, the fissures of Sylvius and Rolando.

When we consider physiology we are struck both by its great progress and by its imperfections. The older physiology is obsolete and discarded, but in the newer physiology the functions of some large and important organs are still undetermined. The ductless glands, for instance, the spleen, the thyroid, the thymus, the supra-renal capsules. An ignorance of their functions renders the surgeon unable to predict the consequences of their removal. Of what avail the brilliant operation to excise a double goitre, if it is to be followed by an obscure degeneration of the nervous or glan-

dular systems? Again, in organs of known functions, the limit of the digestive power of different portions of the alimentary canal is not yet definitely learned. How can we get along without a gall-bladder? How important is the pancreas? Can the duodenum supplant the stomach in nutrition? How much ileum can be removed without starvation? What will the rectum digest? All these are pertinent questions for the physiologist, and have a direct bearing on modern surgery.

In chemistry, the whole study of sepsis, anti-sepsis, fermentation, germicides, the viability of spores, is in its infancy; and as certainly as it already has reversed surgical practice, will it do so again and again.

The great desideratum of surgery now, if chemistry can supply it, is a new, constant, local anæsthetic. This would enable us to banish a chief cause of secondary shock from our operations.

Finally, in pathology we have much to learn and to influence our surgical practice. Diseased organs change appearance and they change place. A double puzzle is thus presented to the operator. On opening the abdominal cavity we are sometimes at loss to locate an organ, and even fail to recognize it, so changed is its look and its surroundings. One part is mistaken for another, a sac for intestine, intestine for sac, adhesions for peritoneum, and so in many other instances. It is of the last importance that the operating surgeon should be so familiar with the pathological changes that he can distinguish the false from the true at a glance.

The future destiny of coarse pathological changes of organs, whether they are hopelessly diseased; whether they can recover; whether the affection is organic or inflammatory, is also to be decided, rightly or wrongly, by the surgical expert on a brief inspection.

Having considered how much we may learn or hope from the pure sciences, we pass to the other limitation of the subject, the arrest or the cure of morbid processes. All surgical disease is inflammatory or organic; we must advance by checking the inflammatory process, or by preventing morbid growths; the first, by arresting suppuration; the second, by discovering the causes of all change and cell proliferation. Through surgical pathology lies the only path. True conservative surgery would then be limited to arresting the consequence of traumatism. The earlier labors of Paget and the later ones of Virchow, Pasteur and Koch, give us some hope of being able to abort suppuration, to inoculate for tubercle, or to eliminate the cancer cell. The abortion of inflammation is now much advanced by the progressing knowledge of asepis. Pyæmia, the opprobrium of surgery, has been enormously reduced in frequency. When suppuration has occurred evacu-

ation, drainage and antiseptics have been equally successful in shortening the pyogenic process and in promoting repair. In tubercle we see the best results follow the évidement of Sedillot, both in cancerous bone and in suppurating lymphatics.

As in variola, may we not hope that a modified germ may jugulate the tubercle bacillus, by inoculation? or if we meet not the success which the modification of rabies is slowly attaining, that chemistry may give us a reagent to devitalize the germ of tuberculosis.

Cancer, to include under that term all recurrent tumors, is, by Virchow's nomenclature, a misplaced cell growth. Modern research now gives us hope of finding the cause of this maldevelopment, and if a germ should be discovered here, a germicide will be finally found.

The manual part of our art—surgery, handcraft, requires also to be perfected, in connection with the advancing boldness with which we open cavities and feel the pulse of life in its central shrine. New operations demand a new technique, new modes, new instruments, a new code of rules; all to be learned by experiment. Nowhere, perhaps, could the French saying, "*jeur chirurgien, vieux medecin*," be more applicable. It is to the young surgeon, born and bred in asepis, that the older physician must look for progress in our art.

In estimating, then, the limitations of surgery, we find none, except they be set by ourselves. How should they be set? By conservative judgment opposed to rashness. In the list of modern and useful operations as distinguished from those barely justifiable, are the following:

1. To remove growths or foreign bodies from the cavities of the body: Opening the brain; opening the spinal cord; displacement of the upper jaw or of the nose for nasopharyngeal polypi; cutting into the pharynx from outside the neck to remove tumors of the tonsil; œsophagotomy for foreign bodies; thyrotomy for growths; gastrotomy for foreign bodies; opening the gall bladder for the removal of stones; opening the pelvis of the kidney for calculi; suprapubic cystotomy for calculi and tumors of the bladder; ovariectomy; removal of the diseased uterus or its appendages; laparotomy for gunshot wounds, and for extra-uterine fetation; excision of the lower part of the rectum for growths.

2. To reach and evacuate inflammatory products: Opening the chest and resecting the ribs for empyema; opening the abdomen for appendicitis, or for chronic peritonitis; opening and drainage of pelvic abscesses; of abscess of the vertebrae; opening of deep abscesses of the neck; evacuation and draining abscesses of joints; perinephritic abscess and removal of one kidney.

3. To relieve obstruction: Intubation and tracheotomy; gastrostomy and enterostomy; colotomy; perineal section; herniotomy.

4. To restore continuity: Resection and suture

of bowel; resection and union of bones; resection and reunion of nerves; nerve grafting; reunion of tendons and of muscles.

5. Unclassified procedures: Plastic and osteoplastic surgery, modifications of orthopædies, including bone resections and excisions; litholapaxy; reduction of dislocation of the hip and of the shoulder by applied anatomy; endoscopy; rhinoscopy and removal of turbinated outgrowths; pathology and removal of adenoids; aseptic wiring of fractures; local anæsthesia in setting fractures; closing of skull wounds by the insertion of buttons of bone.

6. Operations as yet *sub judice* or on trial: Resection of pylorus; resection of cancerous intestine or omentum; removal of the spleen; of large bronchoceles; of the larynx; the pancreas; the prostate gland; the normal ovary; fixation of the kidney or of the uterus; puncture of the pericardium; opening gangrenous abscesses in the lung; tapping the ventricles of the brain.

Rash statements are to be discounted; rash operations are to be discouraged. The wisdom of our earliest Greek master in analyzing the imperfection of our art holds true to-day: "*Arx longa, cila brevis est; occasio fugax, experimentia foliæ; judicium difficile.*" Yet with Bacon came the new light of experiment. In his immortal words: "*Recte veritas temporis filia dicitur, non auctoritas.*" Lean not on authority; the test of truth is time.

The death of Dr. S. W. Gross, of Philadelphia, was reported, and Drs. D. W. Vandell, J. Ewing Mears and P. S. Conner were appointed a committee to prepare appropriate resolutions.

The Committee on Nomination was announced as consisting of Drs. D. Hayes Agnew, Wm. T. Briggs, Hunter McGuire, John S. Billings and J. R. Weist.

On motion of Dr. L. McLane Tiffany, the Secretary was requested to wire to Dr. T. G. Richardson, of New Orleans, the senior Vice-President, who was prevented by illness from attending the meeting, the regrets of the Association at his absence.

DR. DAVID W. CHEEVER, of Boston, read a paper on

SARCOMA OF THE TONSIL—EXCISION.

The patient, a male, æt. 57, single, for one year had to breathe through the mouth on account of enlargement of the left tonsil. No pain was experienced until November 1, 1888, when he "caught cold" and the tonsil swelled considerably and became sore and tender, and discharged spontaneously a few days later. At the same time he noticed some enlarged glands in the left neck. The glands gradually increased in size. The tonsil caused no more pain but there was an increasing sense of fulness behind it, increasing

dysphagia and difficulty in articulation. There was loss of appetite and weight. When he came under observation January 14, 1889, the left tonsil was found to project nearly to the uvula, and was as large as a pullet's egg. There were two glands in the left neck each as large as a horse-chestnut.

The operation was performed January 17, 1889, ether being given, and the patient being in a sitting posture. A gland in front and one behind the sterno-cleido mastoid muscle were removed. The first incision was semi-lunar, concave upwards, marking the boundaries of the digastric triangle. A second incision over the lower jaw at right angles to the middle of the first incision was then made. The right hyoid muscle was now divided and the other tissues pushed to one side. The lower jaw was then sawed in two in front of masseter muscle. The tumor was pressed out by finger in the mouth, and was found to be covered with a delicate capsule. On puncture a soft material exuded. The tumor and capsule were removed without great difficulty. There was no hemorrhage and the facial artery and external jugular veins the only vessels ligatured. The wound in pharynx was not sewed; the jaw was wired, the external wound in skin was wired, the external wound in skin was partially approximated and washed with two per cent. boracic acid solution, and dressed with boracic gauze. The wound was dressed daily. Healing took place rapidly, with no unfavorable symptoms. On the 30th day the wire was removed and the jaw found to be firmly united. Microscopical examination showed the growth to be round cell sarcoma.

April 27, a second operation was performed for a tumor on the same side of the neck. The throat, however, remains healthy. A large glandular mass was removed from anterior carotid triangle. This also proved to be a round cell sarcoma.

DR. D. HAYES AGREW, of Philadelphia: There are several points of interest in connection with sarcoma of the tonsil. I think that including the case of Dr. Cheever's there are only ten or eleven on record. A second point is the fact of constant recurrence. I believe that there is only one case on record where return has not taken place. In that case the thermo-cautery was employed. Various operations have been employed, enucleation, the écraseur, the galvano-cautery, the thermo-cautery, and the external method first used by Dr. Cheever. The operations when undertaken should be done simply with the view of palliation. The operation from without is confessedly a difficult operation, and while in the hands of experts it probably affords the best opportunity for the removal of all diseased structure, but for the general operator some other method would no doubt be better. I have been much struck with the exposure gained by simply slitting the

cheek in operations on tumors far back in the throat, as far back as the soft palate. This would probably give as good a chance of success as any other plan of procedure.

DR. A. VANDERVEER, of Albany: The first well marked case of sarcoma of the tonsil that has come under my observation was in a man aged 72 years. The tumor had been discovered four months before I saw him. There was a full, round tumor of the tonsil, interfering seriously with deglutition and somewhat with breathing. The patient selected enucleation in preference to the operation from the outside. My intention was to remove all that I could with the tonsilotome cutting from behind forward, then enucleate with a blunt instrument and use the thermo-cautery. After cutting through the capsule the tonsilotome slipped behind the tonsil and it was completely enucleated. I did not apply the thermo-cautery. The patient had no return of the disease for eight months. The growth then reappeared and rapidly increased in size. Two months later the patient was taken with pneumonia and died in a few days.

DR. P. S. CONNER, of Cincinnati: I think that the statements in reference to the infrequency of sarcoma of the tonsil are hardly correct. I know of several unreported cases, two of which came under my own observation. One was in a girl aged 26 years. The disease was so far advanced that I thought no operation justifiable and she died a few days later. The second case was a man aged 40 years. The tumor was as large as the fist. I operated by slitting the cheek and was able to readily separate the tumor from the capsule with the finger. The operation was done in June. In July he was apparently in excellent condition. The disease began to recur in the latter part of August and grew rapidly, and in October he was found dead in bed, supposed to have committed suicide.

DR. M. H. RICHARDSON, of Boston: Some time ago I removed a sarcoma of the tonsil by external incision. The enucleation was accomplished with ease and without opening the pharynx. A year after the operation there had been no return of the disease. This was two years ago, and as far as I know the patient is still living.

DR. CHEEVER: The operation through the cheek is probably easier and more desirable in some cases, but the operation from the outside leaves less paralysis and less scar. The great dread of these operations opening the upper part of the alimentary canal was formerly the danger of fistula. This has now been proven to be without foundation. I am inclined to think that the use of sutures in the pharynx or œsophagus would be more dangerous than their omission. The object of these operations is to permit the patient to die easier. It is more comfortable to

die with an external tumor than with one pressing upon the larynx or throat, causing starvation or choking.

(To be concluded.)

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

Hyperthermic Gastric Disorders and their Treatment by Naphthol—Salicylate of Soda as an Antipyretic—The Proscription of Ergot of Rye during the After Stages of Parturition—Maladies of the Organ of Vision produced by Diabetes and the Indications for Operative Measures—The Abortive Treatment of Whitlow.

At a recent meeting of the Clinical Society, Dr. Comby, Hospital Physician, read a note on *Hyperthermic Gastric Disorders and their Treatment by Naphthol*, from which the patients derived the greatest benefit. Following the example of Professor Bouchard, who vaunted this substance in intestinal disorders, Dr. Comby prescribed naphthol B. in doses of 2 grams, 50 centigrams per day. One patient was a young man, aged 21 years, a house painter, and who was formerly subject to lead colic, but had not for some months past been exposed to saturnine intoxication. At the time of his applying for advice he was dyspeptic, had dilatation of the stomach, and had, at the second phalanges of the fingers, in a very marked degree, osseous nodosities, which Professor Bouchard was the first who studied them, and of which he fixed the semiological value. This condition was accompanied by a high body temperature, rising as high as 41.2° C., but the day after the administration of the naphthol the temperature fell to 37.2 C., and only but once rose again, when it marked 38.3° C. In another case of febrile gastric trouble, accompanied with incessant bilious vomiting, the naphthol produced marvelous effects. According to Dr. Comby's experience, naphthol is an inoffensive medication, and may be employed for some time without any inconvenience, and he can only corroborate the observations of Professor Bouchard, who stated that intestinal antiseptic in general, and antiseptic by naphthol in particular, should be practiced in all these morbid states which, as for instance, gastric disorders, appear to depend on abnormal putrefactions which occur in the digestive tube.

Professor Jaccoud, at a recent clinical lecture, stated that, according to his experience, the best antipyretic, in febrile tuberculosis, is the salicylate of soda. He considers it inadmissible, that in presence of the facts brought out by clinical experience that the sulphate of quinine should still be administered in these cases. The salicylate

of soda should be given at a maximum dose of 2 grams in 24 hours. At a daily dose of 1 gram the medicament may be advantageously continued for a long time, with this precaution that the patient should absorb, after each dose or part of a dose, largely diluted with plain or alcoholized water. The contra-indications of the use of the salicylate of soda are: affections of the kidneys, inflammation of the lungs (for fear of asphyxia), and of the heart.

According to Dr. Blanc, of Lyons, the proscription of the use of the ergot of rye, which is the rule during pregnancy and labor, should be extended to the after stages of parturition, except of course in certain cases. Of ninety-two women, whom the author divided into three categories, he studied the influence of ergotine on uterine regression. The first forty had no ergotine, he simply contented himself with measuring the length of the uterus in the first ten days. Forty women also served for experiment in the second category. To each he administered one gram of ergotine Yvon in subcutaneous injection in the abdominal parietes, for ten days following parturition. In the twelve others the same treatment was employed during ten days. It results from these researches that there was scarcely any appreciable difference in the mensurations of the uterus whether ergotine was or was not employed. Dr. Blanc, therefore, feels authorized to say that involution is better accomplished when there is abstention, and he concludes his note as follows: 1. That ergotine, employed during the first five days, has no influence whatever on the regression of the uterus. 2. That this medicament, employed after parturition, may oppose, in a certain measure, the retraction of the organ. This medicament, already proscribed during pregnancy and during labor, should equally be proscribed during post-partum, except, however, in the case of secondary hemorrhage, where its action is the more sensible the nearer the confinement.

In a note by Dr. Stæber in *The Journal d'Oculistique*, the author examines the maladies of the organ of vision produced by diabetes, and the indications for operative measures. The lesions of the organs of vision produced by diabetes are, he said, of seven species: 1. The anomalies of accommodation and of refraction. 2. Cataracts. 3. Troubles and hemorrhages of the vitreous body. 4. Hemorrhagic retinitis. 5. Atrophy of the optic nerve. 6. Paresis of the extrinsic muscles of the eye. 7. Keratitis more or less grave. In referring to the operative indications the author had particularly in view the operation for cataract. He ranges himself to the opinion of those ophthalmologists who practice extraction, whatever be the quantity of sugar contained in the urine, abstaining from operating only when the state of emaciation and of debility has reached a too high degree.

The author, however, recommends the previous treatment of diabetes, and advises that the operation should be performed only when one had obtained by this treatment a notable diminution in the quantity of sugar contained in the urine. He recommends all the antiseptic precautions before and after the operation. The surgeon will abstain from all surgical intervention, if there exist at the same time as the cataract, a grave amblyopia, symptomatic hemorrhages of the retina, or atrophy of the optic nerve.

Dr. Gaucher, in writing on the abortive treatment of whitlow, states that, to effect this object, it is sufficient to moisten slightly the painful part and around it with a little water, and to pass over this surface a stick of nitrate of silver. In a few hours after the skin becomes black, all pain disappears and the inflammation is arrested. No dressing is required and the black color disappears in six days. The author relates that in a case of the fit of the gout, the great toe was much swollen and painful to the touch, rather red, and was the seat of lancinating pains which prevented the patient from sleeping. The toe was painted as above described, and the next day it diminished in size, the pain completely disappeared a quarter of an hour after the painting, and the patient got up and attended to his occupation. A. B.

A LETTER FROM MOSCOW.

Artificial Inoculation of Calves.

From "*Le Progrès Médical*" of April 27, 1889.

To the Editor in Chief:—At the last session of the Société physico-médicale de Moscow, Dr. A. Voitoff made a communication of much interest on the *Artificial Vaccination of Calves*. In spite of numerous researches, no one has yet discovered the pathogenic microbe of small-pox. Studying this interesting question and endeavoring to find the specific agent of this disease, M. Voitoff has found in the contents of variolous pustules the presence of some species of microorganisms which are already known and described. Inoculations of calves with cultures of each one of these microbes gave no results. M. Voitoff employed an injection of a mixture of the cultures with satisfactory results. Animals vaccinated in this way presented characteristic variolous pustules. (A vaccinated calf was shown to the Society.) The reinjection from this first animal of others has always produced variola. Experiments with genuine variolic lymph show that animals vaccinated with the artificial lymph had entire immunity from the disease. It was remarked that at the fourth generation the artificial lymph began to lose its virulence. The members of our Society for the most part admit that the observations of

M. Voïtoff merit a position among the great discoveries.

This study proves in fact that an infectious disease may be excited not only by one pathogenic microorganism, but also by the simultaneous presence in the organism (by symbiosis) of microbes which taken alone would be harmless. Besides this, artificial vaccination, now possible after the methods of M. Voïtoff, would free us from all danger of the introduction of the virus of other diseases, as syphilis, tuberculosis, etc.

S. VERNEL.

Moscow, April 10, 1889.

As the above letter seemed of much interest I have translated it for THE JOURNAL.

THOS. M. FLANDRAU, M.D.

Rome, N. Y., May 15, 1889.

DOMESTIC CORRESPONDENCE.

Etiology of Pulmonary Phthisis.

Dear Sir:—Referring to your kind review (on pages 629 and 630) of my paper, read before the Section on Climatology, etc., International Medical Congress, it does seem *possible*, as you suggest, that those deaths from phthisis which are controlled by the atmospheric temperature are the cases of chronic pneumonia "catarrhal phthisis," and it may not be practicable to prove or disprove this assumption until after distinctions between that disease and tubercular phthisis are made in mortality reports; yet we have strong evidence bearing upon the subject, as follows: My tables and diagrams show positively that scarlet fever and small-pox are quantitatively controlled by the atmospheric temperature; and there can be little, if any, doubt that this is because the specific contagia of these diseases find easiest entrances, by way of the air-passages, when the exudative inflammations in the air-passages are most prevalent, that is, during the coldest weather: at such times, then, inoculation with the specific contagia of these diseases occurs, and, in susceptible persons, these diseases are thus caused. We have reason to believe that, just as the inoculation with the specific contagia of scarlet fever and small-pox occurs most when the air-passages are most irritated, so inoculation with any other contagium which can enter by way of the air-passages will occur when the air-passages are most irritated; and it is proved by my tables and diagrams that this is in the coldest weather. It is known that the *bacillus tuberculosis* is present in the dust of rooms inhabited by consumptives where the sputa are not carefully collected in cups or spittoons. And, although the bacilli are not in the air expired by consumptives, there can be little doubt

that the bacillus is frequently present in the dust of public halls, on the floors of which sputa may be dried. It is now well known that inoculation with the *bacillus tuberculosis* causes tuberculosis in susceptible persons and animals. That the deaths reported from phthisis pulmonalis are controlled, as they are to some extent, by the atmospheric temperature, seems to me to be because in some cases the deaths follow within a few months of the inoculation, which in some cases is, as I believe, by the inhalation of the bacillus, and, in some cases, by the exudation and rapid multiplication of bacilli in the inflammatory exudates (in the lungs and air-passages), caused by the inhalation of cold dry air, and thus deaths from phthisis *pulmonalis* result to persons who have previously had tuberculous disease in some part of the body. But, that a larger proportion of the sickness from consumption is not, apparently, controlled by the atmospheric temperature, seems to me to be because of the long and extremely variable duration of the disease after first inoculation with it, coupled with the fact that the reports of sickness include old cases as well as new cases. If the sickness could be learned so as to include in the report only the new cases taken sick, I think a very large proportion of all the cases would be found to be quantitatively related to the atmospheric temperature, just as is found true for scarlet fever and small-pox, in which diseases only cases recently taken sick can be included.

With deference to the author of the editorial, I respectfully submit that if it is a fact "that the highest ratio of phthisis to the population is in the North-Eastern and Middle States;" that fact is not evidence that the climatic causes of phthisis are most present in the Middle and North-Eastern States; on the contrary, they may be least present there, because the death-rate from phthisis increases so rapidly with the age of inhabitants, over the age of fifty years.¹ So that a comparison of the total death-rates from phthisis at all ages in different localities may supply a hint as to the average age of the inhabitants, but cannot supply evidence of the comparative healthfulness of the localities, unless it is shown that the ages of the inhabitants in the several localities are the same, and then it cannot, unless it is shown that in these populations the proportion of the sexes at the different ages are the same. Even then, the evidence from comparisons of places has little value, unless it is shown that the occupations and character of the inhabitants are the same, because phthisis is less fatal among the well-to-do who are not in certain dangerous occupations, and it is lessened, as stated in the editorial, by drainage and by sanitary conditions. I submit that nothing has been established as to the geographical distribution of phthisis, which is important that my facts or my "explanations"

¹ Vital Statistics of Michigan, 1870, pages 314-315.

tion be reconciled with," except the fact, referred to in the editorial as having been established by Dr. Henry I. Bowditch, in this country, and by Dr. Buchanan, in England, that residence over low, undrained soil is conducive to phthisis. But it is an error to suppose that the facts which I have presented are not in harmony with those presented by Drs. Bowditch and Buchanan. They are all in harmony, and are easily reconciled, as I shall try to point out in a paper to be read before the Section on State Medicine at the coming meeting of the Association, at Newport, R. I.

If "the highest ratio of pneumonia is on the lower part of the Atlantic slope between the Delaware and Savannah, etc., the explanation may be similar to that just suggested as to phthisis, the mortality from pneumonia is much greater at some ages than at others, it is especially great among children, and, in adults, more among males than among females, therefore comparisons of localities teach us little unless a great many facts besides the total death-rates are given, and such facts have not yet been supplied.

The answer to the last sentence in the editorial (page 630), is of considerable interest, because it is "new to science." If one will study carefully the diagram, graphically representing the facts exhibited in the tables in my article reviewed in *THE JOURNAL*, it will be seen that it is certainly proved not only that the prevalence of such diseases as influenza, croup, scarlet fever and small-pox, is controlled by the temperature, that the times of maximum and minimum prevalence of each specified disease follow the times of greatest and least cold, but that the disease is later than the exposure to cold by a time equal to the average duration of the disease, and the period of incubation, if it have one. Thus, the maximum sickness from such an acute disease as croup (Diagram 13) is in the same month as is the greatest exposure to cold atmosphere, and the least sickness is in the month of least cold, the most sickness from scarlet fever and from pneumonia is a month later, and the least sickness from each disease is a month later, while the changes in the deaths from small-pox and from phthisis (Diagrams 9 and 10) follow (in most months of the year) about two or three months later than the atmospheric temperature changes. Deaths from small-pox should be expected to follow, and they seem to follow, as long a time later than the temperature changes as is the average duration of the fatal cases, plus the average period of incubation. Similar remarks may be made of phthisis pulmonalis; probably because, whether the tubercular disease of the lung is incited by bacilli inhaled into the lungs, or by bacilli which reach the lungs through the blood from some other part of the body of a tuberculous person, the irritations and exudations, which enable the bacillus to reproduce rapidly in the lungs, and make it

possible for this disease to cause deaths from *pulmonary* disease, seem unmistakably to follow the exposure to inhalation of cold atmospheres, considerable portions (about one-sixth) of both the sickness and the deaths from pulmonary consumption follow about two or three months after the changes in the temperature of the atmosphere; that the proportions which are apparently controlled by the atmospheric temperature is, as I believe, owing to the long and variable duration of the disease, as I have already explained.

Thus far no one has collected and published very many facts concerning the first onset of phthisis pulmonalis, and has studied those facts in their relations to the inhalation of cold dry air, and in relation to the inhalation of dust containing the *bacillus tuberculosis*; but I submit that the facts which I have published, taken in connection with what is the common property of the profession, make it extremely probable that the causation of pulmonary phthisis is thus to be explained.

Very respectfully,

HENRY B. BAKER.

Lausing, Mich., May 11, 1889.

MISCELLANY.

THE MITCHELL (IND.) DISTRICT MEDICAL SOCIETY will meet at West Baden, Ind., Thursday and Friday, June 13 and 14, 1889. Papers of interest to the entire profession will be presented at the meeting. Reduced rates on railroads have been secured. Special hotel rates.

THE CHAMPAIGN COUNTY MEDICAL SOCIETY met May 5th, at Mosgrove Lodge Hall, Urbana, Ohio, with a large number of members and visitors present. After the examination and discussion of several clinical cases presented by members of the Society, Prof. D. N. Kinsman, of the Columbus Medical College, Columbus, Ohio, who was present by invitation, was introduced by the President, and delivered a very able and instructive discourse on the subject of *Microbes*. The lecture was listened to with great interest by all present. Dr. Kinsman was unanimously tendered a vote of thanks by the Society, and invited to return again at some future time and continue the subject.

THE German Government has not only refused to open fresh schools of medicine, but the *Landtag* has refused the subsidies formerly accorded to certain professorial chairs at Halle and Marburg.—*The Practitioner*.

LETTERS RECEIVED.

Dr. W. Elliot, Verona, Ill.; Dr. W. H. Lyford, Port Byron, Ill.; C. H. Bryant, Dr. W. H. Wathen, Louisville, Ky.; Mrs. R. J. Keith, Peoria, Ill.; Dr. J. S. B. Alleyne, St. Louis, Mo.; Dr. H. von Rucke, Asheville, N. C.; Dr. G. B. Little, Burlington, Ia.; Dr. E. H. Dudley, Janesville, Wis.; J. G. Jowers, Smith's Fork, Tenn.; Enos McCormick, Hartford, Ct.; Dr. Henry Gibbons, San Francisco, Dr. A. P. Grinnell, Burlington, Vt.; Dr. Chas. C. Brown, Adrian, Ill.; J. Astier, Paris, France; A. E. Walesby, Louisville, Ky.; H. N. Rowell, San Francisco; Dr. E. Pyncheon, Chicago; Dr. Willis G. Tucker, Albany, N. Y.,

Dr. A. B. Carpenter, Cleveland, O.; J. H. Peele, Louisville, Ky.; Dr. Wm. Osler, Philadelphia; Thos. Leeming & Co., J. H. Bates, Dr. Fred. King, New York; Dr. Samuel N. Nelson, Boston; Dr. Geo. W. Burton, Mitchell, Ind.; L. F. Bishop, New York; S. J. Alkier, Burlington, Vermont.

THE honorary degree of Doctor of Laws has been conferred by the Senatus Academicus, Edinburgh University, on Dr. Richard Quain, of London.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 11, 1889, to May 18, 1889.

By direction of the acting Secretary of War, a board of medical officers, to consist of Lieut.-Col. Anthony Heeger, Surgeon, Capt. F. C. Ainsworth, Asst. Surgeon, and Capt. John O. Skinner, Asst. Surgeon, will assemble at the U. S. Military Academy, West Point, N. Y., on June 1, 1889, to examine into the physical qualifications of candidates for admission, and members of the graduating class. Par. 9, S. O. 108, A. G. O., May 10, 1889.

By direction of the acting Secretary of War, the following named officers are detailed to represent the Medical Department of the Army at the annual meeting of the American Medical Association to be held at Newport, R. I., on June 25, 1889: Major Samuel M. Horton, Major John S. Billings and Major Charles Smart, Surgeons U. S. Army. Par. 15, S. O. 110, A. G. O., May 13, 1889.

By direction of the acting Secretary of War, the ordinary leave of absence granted Capt. William B. Davis, Asst. Surgeon, in S. O. 232, October 5, 1888, from this office, is extended six months on surgeon's certificate of disability. Par. 20, S. O. 180, A. G. O., May 10, 1889.

By direction of the acting Secretary of War, leave of absence for six months, on surgeon's certificate of disability, is granted Capt. R. G. Ebert and Capt. E. B. Moseley, Asst. Surgeons U. S. Army. Pars. 5 and 6, S. O. 109, A. G. O., May 11, 1889.

By direction of the acting Secretary of War, Capt. Louis S. Tesson, Asst. Surgeon U. S. Army, is relieved from duty at Watervliet Arsenal, N. Y., and ordered to Ft. Sidney, Neb. Par. 9, S. O. 107, A. G. O., May 11, 1889.

Capt. William C. Gorgas, Asst. Surgeon, now on duty at Ft. Barrancas, Fla., will report in person to the commanding General, Dept. of the Missouri, for temporary duty with troops in the field. Par. 1, S. O. 112, A. G. O., Washington, May 15, 1889.

Capt. Wm. C. Gorgas, Asst. Surgeon U. S. Army, ordered to proceed at once and to report to the commanding General Dept. of the Missouri for temporary duty in the field.

Capt. Wm. C. Gorgas, Asst. Surgeon U. S. Army, will accompany the command from Ft. Barrancas, Fla., and proceed with battery H., Second Artillery, to Ft. Adams, R. I., and to return to his proper station on completion of this duty. Par. 5, S. O. 108, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, May 13, 1889.

First Lieut. Jefferson R. Kean, Asst. Surgeon U. S. Army (Ft. Robinson, Neb.), is hereby granted leave of absence for one month, to take effect between the 1st and the 15th of June, 1889, with permission to apply at Hdqrs. Div. of the Missouri for an extension of fifteen days. Par. 2, S. O. 48, Hdqrs. Dept. of the Platte, May 13, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 18, 1889.

P. A. Surgeon Robert Whiting, ordered to the receiving ship "Minnesota."

Surgeon G. E. H. Harmon, detached from the Naval Academy and to the "Constellation."

Asst. Surgeon C. W. F. Lowndes, detached from Naval Academy and to the "Constellation."

Asst. Surgeon W. F. Arnold, detached from the "New Hampshire" and to the "Pinta."

P. A. Surgeon C. W. Rush, detached from the "Pinta," proceed home and wait orders.

Surgeon W. A. McClurg, ordered to the Bureau of Medicine and Surgery.

Asst. Surgeon E. R. Stitt, detached from Bureau Medicine and Surgery, and to the "New Hampshire."

Surgeon H. C. Eckstein, ordered to the Marine Rendezvous, Philadelphia, Pa.

Medical Director M. Bradley, detached from Marine Rendezvous, Philadelphia, Pa., and continue on special duty at Philadelphia.

Surgeon M. L. Ruth, granted another year's leave.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Four Weeks Ending May 11, 1889.

Surgeon George Purviance, detailed as chairman of Board for the physical examination of candidates for appointment as cadets, Revenue Marine Service. May 3, 1889. Detailed as chairman of Board for the physical examination of officers, Revenue Marine Service. May 11, 1889.

Surgeon Fairfax Irwin, to proceed to Bath, Wiscasset, Rockland, Belfast, Bangor, Ellsworth, Machias, and Eastport, Me., as inspector. April 22, 1889.

P. A. Surgeon F. W. Meade, detailed as recorder of Board for the physical examination of candidates for appointment as cadets, Revenue Marine Service. May 3, 1889. Detailed as recorder of Board for the physical examination of officers, Revenue Marine Service. May 11, 1889.

P. A. Surgeon W. A. Wheeler, granted leave of absence for thirty days. April 16, 1889.

P. A. Surgeon W. D. Bratton, relieved from duty at San Francisco, Cal.; to assume charge of the Service at Portland, Ore. May 8, 1889.

Asst. Surgeon G. M. Magruder, to proceed to Baltimore, Me., for duty. May 8, 1889.

Asst. Surgeon T. B. Perry, when relieved at Portland, Ore., to proceed to San Francisco, Cal., and await orders. May 8, 1889. To report to the commanding officer, revenue str. "Rush," for special duty. May 11, 1889.

Asst. Surgeon A. W. Condict, when relieved from duty at Boston, Mass., to await orders. May 8, 1889. To report to the commanding officer, revenue str. "Chase," for special duty. May 11, 1889.

Asst. Surgeon S. H. Hussey, when relieved from duty at Baltimore, Md., to proceed to Boston, Mass., for duty. May 8, 1889.

Asst. Surgeon H. D. Geddings, to proceed to Baltimore, Md., for temporary duty. May 8, 1889.

STATE MEDICAL ASSOCIATION MEETINGS IN 1889.

STATE.	SECRETARY'S NAME AND ADDRESS.	TIME AND PLACE.
Arkansas.	L. P. Gibson, Little Rock.	Pine Bluff, May 28.
Colorado.	H. W. McLaughlin, Denver.	Denver, June 18.
Dakota.	H. E. McNutt, Aberdeen.	Mitchell, June 20.
Delaware.	J. E. Ellegood, Laurel.	Dover, June 11.
Maine.	C. D. Smith, Portland.	Portland, June 11.
Massachusetts.	F. W. Goss, Boston.	Boston, June 11.
Minnesota.	C. B. Wetherle, St. Paul.	Minneapolis, June 20.
New Hampshire.	G. P. Conn, Concord.	Concord, June 18.
New Jersey.	Wm. Pierson, Orange.	Spring Lake, June 4.
New York.	E. D. Ferguson, Troy.	New York, Sept. 25.
Oregon.	C. C. Strong, Portland.	Portland, June 11.
Pennsylvania.	W. B. Atkinson, Philadelphia.	Pittsburgh, June 4.
Rhode Island.	G. D. Hershey, Providence.	Providence, June 13.
Vermont.	D. C. Hawley, Burlington.	Brattleboro, June 27.
Virginia.	I. B. Edwards, Richmond.	Burlington, Oct. 10.
West Virginia.	J. I. Fullerton, Charlestown.	Roanoke, Aug. or Sept.
		W. Sulphur Springs.

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ADDRESS.

PRESIDENTIAL ADDRESS.

Delivered before the Kentucky State Medical Society at its Thirty-Fourth Annual Session, held in Richmond, May 8, 9, and 10, 1889.

BY L. S. McMURTRY, A.M., M.D.

Fellow-Members of the Kentucky State Medical Society.—Thirty-eight years have elapsed since a convention of Physicians of Kentucky was held in the Senate-Chamber at Frankfort, to consider the necessity of organizing a State Medical Society. In effecting permanent organization, the constitution, which was a model of simplicity and conciseness, declared the purposes of the organization in this language:

"First. The cultivation and advancement of medical science and literature by the collection, diffusion, interchange, presentation, and general circulation of medical knowledge throughout the State.

"Second. The establishment and maintenance of union, harmony, and good government among its members, thereby promoting the character and usefulness of the profession."

In October, 1852, the second annual meeting of the society was held in the circuit court room in Louisville, when the real work of the society was inaugurated. At this meeting the original members were nineteen in number, and included the familiar and memorable names of Breckinridge, Chipley, Dudley, Flint, Foree, Gross, Miller, Letcher, Richardson, Sutton, Sneed, and Spillman. Forty-six physicians were added to the membership at this meeting, among others the names of Bell, Caldwell, Ewing, Hewitt, L. P. Vandell, Lewis Rogers, Powell, Bartlett, Wible, Peter, and Bullitt are found, names familiar to Kentucky people and to students of medical science.

At this meeting Professor Henry Miller made a report on the progress of Obstetrics, a duty for which his original work and superior knowledge eminently fitted him; and Professor Gross read his famous report on Kentucky Surgery. Dr. W. S. Chipley contributed a report on Vital Statistics, in which he gave an exhaustive report of the sanitary condition of the State, illustrated

by a valuable map prepared under his direction, the result of a sanitary survey of the State. The counties are arranged in colors with reference to their mortality and the prevalence of disease. Dr. C. H. Spillman, of Harrodsburg, who is still among us respected and honored, made an elaborate report on the Indigenous Botany of Kentucky. The first volume of Transactions was indeed a valuable contribution to medical science and literature. The work done at this meeting demonstrated the facts: First, that an organization for promoting the science of medicine and improving the sanitary condition of our people was needed; second, that the profession in Kentucky was thoroughly imbued with the scientific spirit, and in ability, culture and attainments conspicuously in advance of the age.

Briefly and imperfectly I have sketched the origin and foundation of the society which has assembled here this evening in its 34th annual session. At the time to which I have referred—1852—there were 982,405 inhabitants in the State of Kentucky, and 1,470 physicians. In Lexington, afterward removed to Louisville, a centre of medical education had already been established, drawing to its instructions large numbers of pupils from the great domain west and south of the Alleghanies. The fame of McDowell, Dudley, Drake, Caldwell, Gross and their colleagues had already extended far and near. These were the surroundings and the fields in which our predecessors labored. And now that thirty-eight years have elapsed, with regular annual meetings, save during the four years of civil war, may we not pertinently inquire, what has been accomplished? How can we of the present, best discharge the duty committed to us by our predecessors? What of the future? These are questions which well deserve our thoughtful consideration.

As has already been stated the original constitution declares the chief and first purpose of this organization to be "the cultivation and advancement of medical science and literature, by the collection, diffusion, interchange, preservation, and general circulation of medical knowledge throughout the State." The earnestness of this purpose was attested in 1852 by the historic papers already mentioned, which may be found in the first volume of our Transactions. The time at my command will

not permit even an enumeration of the many important contributions to medical science and literature made through the medium of this society and published in the Transactions through all these years. Elaborate researches and clinical studies bearing upon the various departments of pathology, surgery, and midwifery constitute the major portion of the Transactions. Through the several standing and special committees all the great advances in medical science and every improvement in the art of medicine and surgery have been quickly brought to the attention of the society. Papers bearing upon improvements in medical education have found a place almost every year, and questions relating to Sanitary Science have been a conspicuous feature of our proceedings. By oft-repeated suggestion and indefatigable labor through appropriate committees, the act of the General Assembly establishing the State Board of Health was secured, more recently by the exertion of the able and efficient executive officer of the Board of Health, with the active coöperation of this society, our legislature was brought to realize the importance of further protecting the public health, and passed a law regulating the practice of medicine in this Commonwealth. The custom of holding the annual meetings at various points in the State, observed since the foundation of the society, has of itself promoted the declared purpose of the society by awaking the profession's interest in scientific work and diffusing knowledge. By this means too, county medical societies have been developed and encouraged.

The second purpose enunciated in the constitution relates to elevating the character of the profession. Through this society, from its foundation to the present time, appeals have been constantly made for elevating the standard of professional rectitude, and exposing the evils of charlatantry.

If time and patience permitted, I might enumerate many of the indirect influences exerted by this society in diffusing knowledge, improving the resources of our art, and advancing the public welfare. The charitable institutions of our State have at all times elicited the interest of our society. Our delegates have annually occupied their places in the American Medical Association, and contributed liberally to its proceedings.

From what I have stated relative to the status of the profession in Kentucky at the time this body was organized, it is seen that the standard of Kentucky medicine was conspicuously high. The metropolis of the State has continued to be, and is now, a centre of medical education for the south-west. The medical periodicals edited and published in Kentucky are numerous and of a high order of scientific merit. To these the members of this society have been constant contributors. In 1879 it was decided by the society

that its papers and proceedings could be best disseminated through the medical journals of the State, and the annual volume of Transactions was discontinued. The last volume published by the society was the McDowell Memorial volume, containing the oration of Professor Gross and other papers incident to the dedication of the McDowell monument which was erected by the society in Danville in 1879.

An examination of the series of volumes entitled the "Transactions of the Kentucky State Medical Society" enables one to trace the progress of medicine through these years of activity in every department of our art. As knowledge grew apace, and concentration of energy with the necessary division of labor obtained, specialists in medical practice were developed. These gentlemen representing the various specialties, have been for years past the most active and valued contributors to the work of the annual sessions. At the same time the great body of the society is composed of general practitioners, whose studies and observations in general medicine and surgery compose the greater portion of our proceedings and are equally instructive and valuable. Indeed, here, as elsewhere in our profession, many of the most important and original contributions to medical science have emanated from the practical country doctor. So it obtains that the specialist brings here the results of his expert training and concentrated labor to enrich the knowledge of the general practitioner; while the general practitioner strengthens and enlarges the specialist's knowledge in those lines wherein his work began, and with which his special work is of necessity closely related. In thus glancing hastily back over the thirty-three annual meetings, it is not my purpose to present an optimistic view of our society's labors and their results. Perfection is seldom attained in human institutions or human efforts. There are many features of our annual meetings which could be improved. Each year witnesses improvement in some part of our exercises. This is probably most notable of late in the large number of papers presented at the meetings, in the discussions arranged beforehand by the Secretary, and the improved arrangements for reporting and publishing the papers and discussions.

It would also be unfaithful to the record to depict our society's history as a smooth career of harmonious discussion and unanimity of sentiment, opinion and desire. Numerous breezes and some storms have swept across our floor, but these are necessary to progress, and doubtless purify the atmosphere and encourage wholesome growth.

Our organization has not been without its critics and reformers. They are both within and without. The occasional attendant, who seldom, if ever, contributes a paper or participates in the

discussions, expresses his disapproval of those most active in the society's proceedings, claiming that they monopolize the time of the society; forgetting that the attention of the society can be readily had by himself whenever he chooses, unmindful apparently that the most active members are those who make the society what it is, and extend its usefulness. The reformer often appears upon the floor with resolutions to amend the rules and mode of organization of the society, only to show oftentimes that he has not carefully read our constitution and by-laws. From time to time a momentary enthusiasm appears in the form of a proposition to organize a new State Society upon some ideal basis, forgetting that such institutions are built up through years of steady labor, and cannot be created in full vigor in a night; and overlooking the important fact that any suggestions looking to improved efficiency are sure of respectful attention upon this floor. The most certain and the speediest way to improve the efficiency of the society, is to attend the annual meetings, and take part in the discussions. If in 1851 in our sparsely settled State our predecessors realized the necessity of organization for the cultivation of medical science, surely the obligation to enrich and improve the efficiency of that organization is now increased. The population of Kentucky has almost been doubled, the number of physicians greatly increased, and the science and practice of medicine and surgery advanced to a degree of perfection beyond the most sanguine expectations of the past generation. In all departments of our art is to be seen the greatest activity, and never before in the history of medicine was there such a demand upon the physician's powers to keep abreast in the line of advance.

ORIGINAL ARTICLES.

PRIMARY SARCOMA OF THE LUNG.

BY A. F. BOCK, M.D.,
OF ST. LOUIS, MO.

On the 13th of September, 1888, I was called to see Bertha F., æt. 5, of German parentage. Family history exceptionally good, parents strong and healthy. Patient had four sisters and one brother, all healthy. Grandparents still living with the exception of the maternal grandmother, who died about two years ago of chronic senile gangrene. According to the mother's statement the child had been ill since about July 20 last, when she was taken with a high fever (105°) and complained of severe pain in her left side; which continued with more or less severity until she died. As the fever yielded to quinine it was no doubt of malarial origin. While under my ob-

servation there was no increase of temperature, no cough nor expectoration. The right half of the body was constantly bathed in perspiration, the left always dry. There was very little desire for food, but no difficulty in swallowing. Sleep much disturbed by dyspnea. Pulse ranged between 95 and 110. Previous to July 20 the child had been enjoying good health with the exception of occasional slight ailments. Inspection showed the left thorax considerably increased in size, the intercostal spaces not flattened but stretched; œdema very slight. No movements of the affected side on inspiration and expiration, but a fulness in the epigastrium as if the diaphragm were thrust downwards and forwards. The superficial veins over the left thorax, face and neck were distended. Emaciation of the whole body very marked. Percussion sound flat over the entire area of left lung. Auscultation of the affected lung showed total silence in regard to respiratory sounds. Heart sounds and beat were to the right of the sternum and below the nipple somewhat accelerated and weak, but otherwise normal. Palpation showed absence of vocal thrill.

The history, symptoms and physical signs in this case coincided so closely with those of empyema that Drs. Mullhall and Ostertag, who were called in consultation, concurred in the opinion that the phenomena which the patient exhibited could only be due to purulent effusion in the pleural cavity. Two days previous to Dr. Mullhall's consultation I introduced a needle in the seventh intercostal space a little in front of the axillary line, drawing only a small quantity of apparently sero-purulent fluid. In order to allay the unmanageable struggles of the child a few whiffs of chloroform were administered, but this was soon abandoned on account of alarming symptoms of heart-failure setting in. No further attempts at tapping were made that day. Two days later, with Drs. Mullhall and Ostertag present two more punctures were made with the same result. As the needle was perfectly movable in the mass, it was thought the contents of the chest were too thick to pass through the needle, and while considering for a moment the propriety of making an incision the child suddenly became cyanotic, struggled for breath, and in less than a quarter of an hour expired, all efforts at resuscitation proving fruitless.

Post-mortem twenty-four hours later. On opening the thorax the heart was found pushed over to the right side beyond the right margin of the sternum; the pericardium contained a small quantity of serum. The entire thoracic cavity of the left side was occupied by a white, moderately soft mass, in which no distinct lung-structure could be seen. The left bronchus was entirely obliterated. The heart, the right lung, the spleen and liver showed no sign of disease or secondary degeneration. The neighboring lymphatic glands were

not enlarged nor otherwise diseased. The tumor was easily removed, as there were no adhesions except a cord-like pedicle about the size of a little finger at the root of the lung, containing the blood-vessels that nourished the tumor. The tumor weighed 3 lbs., $3\frac{1}{2}$ ozs., was $6\frac{1}{2}$ inches long, 7 inches broad and $16\frac{1}{2}$ inches in circumference.

Dr. L. Bremer, of this city, to whom the tumor was sent for microscopical examination, made the following report: The tumor is oval-shaped, has the size and form of a human brain minus the cerebellum. A longitudinal median incision makes the resemblance to the two hemispheres a very close one. Its color and consistence is that of brain substance, thus resembling, on coarse inspection, the class of tumors termed encephaloid. Minute examination with the microscope, however, shows that, though a malignant tumor, it is not an encephaloid, if by this name the soft and rapidly growing variety of carcinoma is understood. The surface of the tumor is uneven, recalling the convolutions and depressions of a brain. Sections of its substance reveal in some places a homogeneous white substance; in others it looks marbled, owing to many hæmorrhages which have taken place. These hæmorrhages have also caused many more or less circumscribed softened spots throughout the tumor. An enveloping mass varying between $\frac{1}{2}$ and 1 line in thickness, and of apparently denser consistence, surrounds the tumor and corresponds to the visceral layer of the pleura.

Thin sections of the tumor examined under the microscope show circular and spindle-shaped bodies of considerable size, besides fat globules of variable diameter. Stained with borax carmine and examined in glycerine the spindle cells become more manifest, and it is now clear that the object under examination is a large spindle-celled sarcoma undergoing fatty degeneration. A specimen stained in the same manner but examined after dehydration, in oil of cloves and Canada balsam exhibits large oblong and round nuclei (the latter being the transverse sections of the former) with very little more or less homogeneous or slightly fibrillar basis substance.

Primary spindle-celled sarcomata of the lungs, it seems, are very rare. Other varieties, as carcinomata, adenomata, fibromata, osteomata, and enchondromata, seem to be of somewhat more frequent occurrence as primary tumors of this organ. As a rule, all tumors of the lung are secondary growths. J. S. Billings, Surg. U. S. A., in charge of Library of the Surg.-General's office, Washington, D. C., says: "The only distinctly recognized primary spindle-celled sarcoma of the lung of which I have any note, is that reported by Chiari in the *Wiener Medicinische Presse*, 1878, vol. xix, p. 112. In the 'Transactions of the Pathological Society of London,' vol. ix, 1858, p. 31, Dr. Wilks reports a case of primary tumor of

the lung composed of long nucleated fibres lying side by side, which was probably of the same character. Also in the *Revue Médicale de l'Est*, vol. iv, 1875, p. 119, Dr. E. Demange reports a case of primitive sarcoma of the lung with thrombosis of the pulmonary artery. The tissue of the tumor is composed of fusiform cells with long prolongations, forming what he calls a fasciculated sarcoma, which I take to be the same thing as the spindle-celled sarcoma."

The best authenticated case of primary sarcoma of the lung is that of Dr. L. Ruetimeyer, published in the *Schweitzer Aerztl. Correspond. Blatt.*, 1886, No. 7. He too had mistaken the condition for empyema, and it was the dry tapping that led him to suspect a tumor. Only the lower lobe of the left lung, however, was changed into a sarcomatous mass.

To distinguish such tumors of the lung from empyema, for which it seems they are universally mistaken, there is, I believe, no certain sign, except that elicited by the exploring needle, which must, however, not be too small, and must be inserted at various points in the intercostal spaces, and to a considerable depth. The exuding fluid should be subjected to a microscopic examination, which may possibly reveal the nature of the disease. In my case, owing to an accident, a microscopic examination was not made. The diagnosis in these cases may furthermore be facilitated by considering the peculiarly even distension of the thorax, barrel-shaped; the stretched but not bulging intercostal spaces; the passive dilatation of the superficial veins on the affected side; the greater resistance felt by the finger on percussion; and the total absence of respiratory sounds on the affected side.

ON THE MANAGEMENT OF FUNCTIONAL DISORDERS OF THE STOMACH.

Read before the Georgia State Medical Association, at Macon, Ga., April 19, 1886.

BY P. R. CORTELYOU, A.M., M.D.,
OF MARIETTA, GA.

In calling the attention of this Association for a short time to some points "On the Management of Functional Disorders of the Stomach," I am fully aware that the subject is trite, and that nothing especially new can be said in regard to it. That it has been thoroughly written on by able and scholarly minds, and that in a manner so fully that it would be hard indeed to add even a few threads of purely original thought. My apology, if one be necessary, must be found in this—that it is not the rare and infrequent diseases that most often perplex the daily practitioner, but the more common maladies of every day life, and those which often are considered to be of little special interest;

yet it is often in these very cases that our patients expect and look for speedy relief.

It is not my purpose, nor is it necessary at this time that we should discuss the physiology of gastric digestion, nor the importance of its proper performance, for the securing of good health. Suffice it to say that the stomach is one of the most important, as well as perhaps the most abused organ in the human system. Some ancient solon has said, "Keep the head cool, the feet warm, and the stomach all right, and you will have little need of doctors." However that may be, we know that the condition of the stomach is at the foundation of many diseases.

When we consider what the human stomach has to endure, in receiving into it things hot and cold, raw, boiled, fried, and at all times and hours, from early morn often until the midnight hour, we cannot wonder that it will fail at times to do the work placed upon it.

We are told that Samson, with the jaw-bone of an ass, slew a thousand men, but we think that the hot biscuit and frying pan have slain their tens of thousands.

Among the causes affecting the digestion may be mentioned predisposing and exciting causes. Everything which causes depressed vitality is a predisposing cause to indigestion. It may be caused by hot and debilitating climate, changes in the elementary constituents of the blood, exhausting diseases, mental and moral emotions act as predisposing causes. Age, also, in the extremes of old age and infancy. Anemia, and deficiency of the gastric juice, are also predisposing causes. The immediate exciting causes are errors in diet, excessive eating and drinking. The use of unwholesome food and such as is not properly prepared. Too frequent introduction of food into the stomach without giving the organ sufficient time for rest, acts as an exciting cause. Also irregularity in eating, and rapid eating, the food not being thoroughly masticated.

In treating these cases all these things must be considered and overcome to effect a cure. In the following reported cases, which have been under my care during the past year, I have adopted a somewhat routine line of treatment, but one that has proven very beneficial, and therefore I report them at this time.

Case 1.—Miss H., single, æt. 35 years. I was called to see the patient October 3, 1887. She gave me the following history. She had been suffering for months with severe pain in the stomach, and severe vomiting, often unable to sleep at night on account of the pain. She had lost a good deal of flesh, and was unable to sit up all day. Could eat no solid food without having pain and distress. There was marked tenderness over the epigastrium. The patient very despondent and apprehensive of cancer. Had used various remedies without receiving benefit. Or-

dered glass of hot water to be taken one hour before each meal, and pill consisting of arsenious acid $\frac{1}{6}$ grain, extract nux vomica $\frac{1}{6}$ grain, belladonna $\frac{1}{6}$ grain, reduced iron 1 grain, to be taken after each meal. Blister, size of silver dollar, over the epigastrium, and powder of ingluvin 10 grains, before each meal. Diet, milk, some beef essence, boiled rice. October 6. Patient improving, less pain after eating, sleeps better at night. Ordered bismuth subnit. 4 grains, pulv. pepsin 4 grains, pulv. ipecac grain $\frac{1}{2}$, before each meal, in place of ingluvin. The pills and hot water continued. October 10. Patient still improving. Bowels costive. Ordered fld, ext, cascara sag. 20 to 30 drops at night. I increased diet, giving stale, light bread, crackers, soft boiled egg. Patient able to get out of doors when pleasant. From this date she steadily improved, until she fully regained her strength and was able to take regular diet, her friends telling her she had not looked so well for years, and she still continues to keep well.

Case 2.—Judge C., æt. 71. Called to see the patient April 22, 1888. Gave following history: He had suffered from chronic bronchial trouble for years, and has been spending the winters in Georgia and Florida. He had just come from Florida and was suffering with severe cough, just recovering from an acute attack of bronchitis. His stomach was very tender on pressure, and he was unable to take food without pain and distress, and nausea. Ordered quieting mixture for the cough. Glass of hot water one hour before each meal, with elix. lactopeptine after each meal, and small blister over the epigastrium. Diet: milk, beef essence, crackers, and stale bread. Patient improved rapidly under this treatment, the hot water having a very beneficial effect on his stomach. In about ten days he was able to take regular diet with appetite and without distress.

Case 3.—Miss B., æt. 40. Called to see patient July 1, 1888. She gave following history: For several weeks had been suffering with severe pain and distress on taking food, and with severe choking spells, Complaints of burning and boring pains in the stomach, and tenderness on pressure. Much emaciated, unable to sleep, pale and nervous, anæmic and despondent. Had been under treatment, but received no benefit. Ordered glass of hot water one hour before each meal, small blister over the epigastrium, and powder of bismuth and pepsin, 5 grains each, after meals; aromat. spts. of ammonia, Hoffman's anodyne, and spts. lavender Co., for choking spells. Diet: milk and lime water, stale bread and some chicken broth. July 9th. Patient improving, but still complains of pain in the stomach, but not so constant. Ordered powder of $\frac{1}{4}$ gr. calomel, $\frac{1}{15}$ gr. morph. sulph., 5 grains bismuth subnit, after each meal. Patient improved steadily on this treatment with the hot water; increased diet, giving soft boiled

eggs, soft boiled rice, tea, soda crackers. July 31, 1888. Patient gaining in strength and color and flesh, has very little pain after eating. Ordered pill of $\frac{1}{30}$ grain arsenious acid, $\frac{1}{8}$ grain ext. nux vomica, and 1 grain each of quinine and reduced iron, after each meal. From this date patient steadily improved, and returned to her regular diet, and had no further trouble.

Case 4.—Mrs. M., colored, æt. 35. I was consulted by patient July 31, 1888. She gave the following history: Had been for weeks suffering with severe pain in stomach and left side; unable to take food without pain. Had been under treatment, but received no benefit. Ordered glass of hot water one hour before each meal, fly blister over stomach, powder of bismuth and pepsin, 4 grains each, after meals. Diet: milk and line water, stale bread, and soft boiled rice. Patient improved rapidly on this line of treatment. August 9th. Patient able to take food without pain or distress. Ordered mixture of nux vomica, bismuth and carbolic acid, after each meal, and from this time she has had no further need of treatment.

Case 5.—Mr. A., æt. 35, married. Called to see patient November 29, 1888. He gave the following history: For about one year had been suffering from severe attacks of pain in stomach and bowels, which unfitted him from attending to his business, and frequently prevented sleep. Had lost considerable flesh and was very despondent. Had been under various lines of treatment, but received no permanent relief. His skin was sallow, tongue coated with white fur, bowels costive, tenderness over the epigastrium and liver. Ordered glass of hot water one hour before each meal, small blister over the epigastrium, mild laxative for constipation, and mixture of acid nitro hydrochl., dil., 5iss, syr. sarsaparilla co. 3ij; one teaspoonful to be taken after each meal. Diet: milk and lime water, beef essence, stale bread and soft boiled rice. On this line of treatment patient continued to improve and was relieved of pain and distress, gradually became able to take fuller diet, and gained in strength and flesh. April 1, 1889. The patient has been at work during the winter, has gained 15 pounds in flesh and able to take his regular meals without trouble, but still using the hot water once a day and the nitro. hydchl. pil. occasionally.

From the results obtained in these cases, with others not reported, I have been led to feel that in hot water, properly used, we have a very beneficial agent in all catarrhal conditions of the stomach, and one that is generally grateful to the patient. I have also found the use of small fly blister over the stomach to aid in relieving nausea and pain and tenderness, and think that these means, together with proper regulation of diet, will be successful in relieving many of these distressing and troublesome disorders of the stomach, which are functional.

UNCOMPLETED NEPHRECTOMY.

CALCAREOUS VESSEL MISTAKEN FOR A CALCULUS BY THE NEEDLE TEST—OPERATION ABANDONED ON ACCOUNT OF ADHESIONS—DEATH—AUTOPSY—PRIMARY EX-CEPHALOID OF THE KIDNEY.

Read at the Regular Meeting of the Philadelphia County Medical Society, March 27, 1889.

BY W. W. KEEN, M.D.,

PROFESSOR OF SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF PHILADELPHIA

G. M. C., æt. 68, weight 164 pounds, 6 feet 2 inches tall, was sent to me through the kindness of Dr. E. W. Watson, on October 31, 1888, with the following history:

On April 6, 1886, he had an attack of retention of urine. Violent expulsive efforts forced out a clot. The bleeding continued two or three days. With this he had pain in the right lumbar region. A month later another similar attack occurred, the pain on this occasion being quite severe and amounting to a distinct renal colic. Other attacks, always accompanied by pain and bleeding, occurred in July, 1886, and in January, September and November, 1887. After the last one, for several weeks he had repeated and nearly continuous hæmaturia with a sensation of heat in the right lumbar region, and he lost strength and appetite.

January 14, 1888, he was taken extremely ill with pleuro-pneumonia and septicæmia. Both legs were attacked with phlegmasia. The dullness in the right kidney, Dr. Watson stated, was increased, but no pus was found in the urine either then or at any other time; neither were any symptoms located in the bladder. This illness lasted about two months.

In May and June of 1888 he again had attacks of hæmaturia, and from September 17 to October 31, 1888, he has had nine attacks, passing as much as six or eight ounces of blood, he thinks, in some of the attacks. He has never passed any calculus. In the interval between the attacks the urine was clear. No cause can be assigned for the attacks; not uncommonly they have come on while he was lying in bed. He states that the right kidney is now the seat of marked aching pain.

Present condition.—He is a very tall man with a disproportionately long chest; from the ribs to the crest of the ilium the space is barely two fingers in breadth. The bladder was sounded but no stone was found. Its walls were rugose. The prostate not much, if at all, enlarged. Renal dullness on the two sides equal and normal. Right kidney tender. Two specimens of urine were furnished, one with a large bloody sediment, but without clots, and the other clear and acid, sp. gr. 1022; very slight amount of albumin. Microscopic examination showed no crystalline elements, a few blood discs, granular matter, and a large number of bright fatty-like small globules. Dr. Watson informed me that he had never

found any albumin except just after the attacks of hæmaturia, nor has he ever seen any cast.

It was decided to explore the right kidney, either for stone or possibly for cancer, and either to remove the stone or the kidney, as might seem best.

Operation, Nov. 3, 1888.—Present, Drs. E. W. Watson, A. W. Watson, W. J. Taylor, and T. R. Neilson. An oblique incision, four inches in length, was made just to the right of the erector spinæ, and the perinephritic fat was reached. Surrounding the kidney was a capsule so loose and distinct that it required a very careful examination to be sure that it was not the wall of the colon. The lower end of the kidney appeared normal. The finger detected a rather sharp irregularity deep in the substance of the kidney. The moment it was pressed on, both Drs. Taylor and Neilson, as well as myself, were convinced that it was a stone. A needle was then passed into the kidney, and the point of it grated with great distinctness against the supposed stone. The kidney was now seized with a volsella, and was loosened from the surrounding tissues in order to obtain freer access to it. This was followed by two results: First, very abundant, indeed very alarming hæmorrhage, from large veins that were so concealed under the last rib that they were seized with great difficulty, even after the rib was well raised, and when seized they were so friable that the ligatures would not hold.

The second result of this operation was to disclose the fact that while the small portion of the kidney first discovered was normal, the rest of it was irregular, nodular, and friable, and evidently the seat of a malignant growth. Accordingly, I determined to remove the kidney, if possible. It was rapidly detached from its capsule by the finger, but it was so anchored internally at the hilum that it could not be brought to the surface, in spite of the fact that I got my entire hand into the cavity of the capsule.

Having proved the impossibility of removing the kidney by the loin, I debated the question of attempting it by an anterior incision, but as the difficulty of removal was not the size of the kidney, but the adhesions at the hilum, I concluded not to attempt an operation by this route, as I felt convinced it would result in the patient's dying upon the table. The hæmorrhage had been exceedingly profuse, not from any one particular vessel, or from rupture of the vessels of the hilum, but from every point in the kidney and in the capsule the moment they were separated. This hæmorrhage was checked by thoroughly packing the wound with sublimate gauze. The patient was put to bed. He became conscious and recognized his family, but died from exhaustion three and a half hours after the operation.

Autopsy, twenty hours after death. In order

to determine whether I could have removed the kidney more readily by the anterior incision, I made this attempt as the first step in the autopsy. An incision was made in the right linea semi-lunaris. This incision measured four inches in length, extending from the border of the ribs to Poupart's ligament. No more room, therefore, was obtained for the removal of the kidney anteriorly than posteriorly. The ribs projected so far downward that, in order to reach the kidney, it was necessary to insert my entire hand up to the wrist. The kidney lay far up under cover of the ribs, and was as inaccessible from the front as from the back. It was so thoroughly anchored in its position that to loosen it from its bed required force that would have been wholly unjustifiable during an operation, and would have resulted in rupture of the vessels and in immediately fatal hæmorrhage. It would not have been possible to reach and tie the vessels in such an inaccessible position. When removed, the kidney was found to be enlarged, nodular, and distinctly cancerous. The left kidney and other abdominal viscera were normal.

On section of the kidney there were discovered some calcareous vessels and one or two points of calcification of the other tissues. The kidney measured seven and a quarter inches in length, four and three-quarter inches in width, and three and one-quarter inches in thickness.

Microscopical examination by Dr. J. P. Crozer Griffith showed that it was an intermediate form between scirrhus and encephaloid, with a decided preponderance in the greater part of the organ of the latter form of the disease.

REMARKS—*First, diagnosis*.—This lay most likely between stone in the kidney and cancer of the kidney. Although it seemed unlikely that stone should exist without producing pyelitis and, therefore, showing some pus in the urine, yet I have known of more than one case of both stone in the bladder and in the kidney in which the urine contained no pus. The repeated hæmaturia looked very much toward malignant disease, but the kidney was so under shelter of the ribs that it was impossible to detect any tumor, and the dulness was not markedly increased. The enlargement of the kidney was chiefly toward the hilum, and so the dulness posteriorly was little greater than normal. Mr. Henry Morris states that of thirty cases of cancer of the kidney, found in 2,610 autopsies, twenty-five were secondary and only five were primary. The present specimen is undoubtedly a primary malignant tumor, and is, therefore, a rare form of disease.

Secondly, the surgical aspect of the case.—In this there are two points of interest: First, the needle test for stone. When the kidney was exposed to view, the only healthy portion of it remaining was first seen. Deep under this an irregular, hard mass could be felt, which might easily be a

stone. Puncture by the needle convinced us that it was such. Examination of the kidney after death showed us that no stone existed, but that what was felt by the point of the needle was either a calcareous vessel or a calcareous degenerative mass against which the point of the needle grated. It gave precisely the same sensation as a stone would have done. This possible error seems to me very unusual. I have never seen it noticed, although it may have escaped my knowledge.

Secondly, the advantages of the lumbar or of the abdominal route for removal. As the operation was undertaken primarily for exploration, and no tumor in any sense was discovered, I am clearly of opinion that the lumbar route was the proper one to select. The attempt made at the autopsy shows that the kidney could not have been removed any more readily by the abdominal than by the lumbar incision. The peculiar situation of the mass in question, and the low position of the ribs, resulted in the curious fact that while the space between the last rib and the crest of the ilium was only two fingers in breadth, yet the oblique incision here of four inches was long enough for removal, and it could have been still further prolonged anteriorly if necessary; whereas, the vertical incision from the rib to Poupart's ligament was absolutely limited to four inches, and the kidney was certainly no more accessible by this route than by the other. The removal of the kidney was practically impossible by either method. The inflammatory attachments—especially around the hilum and the great vessels of the kidney—required an amount of force that would have been unjustifiable during life.

LIGATION OF SPLENIC ARTERY FOR CURE OF HYPERTROPHY OF SPLEEN.

A Paper read before the Wayne County Medical Society, May 2, 1889.

BY HAL C. WYMAN, M.D.,

PROFESSOR OF PRINCIPLES OF SURGERY, MICHIGAN COLLEGE OF MEDICINE AND SURGERY, DETROIT.

An Italian, æt. 45 years, who had lived in America and the valley of the great lakes for five years, was brought to the Emergency Hospital with a tumor occupying the left abdominal cavity. His history showed that he had had repeated attacks of malarial fever, which had been treated with quinine. Three years ago he first noticed the tumor in the abdomen, and found himself growing weaker than the previous attacks of ague accounted for. For about a year he had been unable to work owing to the shortness of breath caused by the pressure of the tumor on the diaphragm. He had been constantly under medical care. Had had mercurial and iodine ointments rubbed over the tumor, had taken med-

ical treatment from quacks as well as regulars, but steadily grown worse. He solicited an operation. I examined some of his blood taken from his gums, and could detect no want of proper relation existing between the white and red corpuscles.

I made a careful surgical survey of his case. Found the tumor an enlarged spleen, the hilum of which could be felt as a notch 1 inch to the right and below the umbilicus. His skin was tawny but natural in color. His urine was normal. His stools were infrequent, very hard and dry. His heart and respiration normal, so far as physical signs were able to detect their functions. The lymphatics were not enlarged.

The tumor was immovable, adherent apparently to the abdominal parietes beneath the ribs and along the left side. He said his strength was steadily failing, that he could not breathe much longer unless the tumor was taken away. I determined to operate. I had little hope of removing the spleen, so firm were its adhesions, but I hoped to bring about its atrophy by starving it. In the presence of the students of the Michigan College of Medicine and Surgery, and a number of professional friends, I opened the abdomen in the linea alba. The wound oozed freely, but hot water sponging checked it. The omentum was found very adherent. The spleen was adherent to a part of the intestine, omentum and abdominal wall. Carefully I made my way to the hilum of the spleen and, isolating two branches of the splenic artery as they entered the organ, ligated them with carbolized silk. Some hæmorrhage ensued, but hot sponges checked it. The abdominal wound was closed and dressed antiseptically. The patient suffered greatly from shock, but rallied after about twelve hours. Twenty-four hours after the operation he began to vomit and his temperature rose to 104°, with small pulse. Vomiting soon became severe, and collapse, preceded by acute peritonitis, closed the scene forty-eight hours after the operation. No autopsy was permitted, but the tumor shrunk remarkably as a result of the ligation of the arteries. I was led to perform this operation as a result of a series of surgical studies of the consequences of ligation of the splenic artery and its branches in dogs. Ligation of the common splenic artery of the dog was followed by death, and the autopsy showed an acute necrosis of the spleen. Ligation of two branches of the artery which supply blood to about one-third of the spleen caused, in most instances, a progressive atrophy of that part of the spleen deprived of its arterial blood. The dead spleen pulp, when injected beneath the skin of rabbits, caused death after twenty-four hours with symptoms of acute sepsis, suggesting the idea that the spleen is a place for the physiological metamorphosis of septic materials, and that the organ enlarges after malarial poisoning in the

endeavor to perform its functions. The other ductless glands may assist in this labor, and be able to perform the functions of the spleen when that organ is overworked or has been removed from the system.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH.

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

December 8, 1888.

OPERATION ON A CRUSHED HAND.

The case which we will show you first to-day is one of those very frequent accidents that we see, namely, a railroad crush. This young man was following his occupation as a railroad brakeman, last Sunday, six days ago, when he had his hand crushed in the terrible manner which you see. He was brought here, but he stontly objected to an amputation, and his father, who was with him, also refused to give his consent to an operation. He has, however, seen the error of his way, and now wants an operation done, and an operation that should have been done six days ago will be done now.

Amputations are divided into three periods in regard to the time of their performance, namely: the primary, the secondary, and the intermediate. In cases where a limb is hopelessly lost, all authorities now agree that the sooner it is removed the better. In these cases, in this institution, we operate at once, just as soon as the patient comes under our care; provided, of course, that he is not in profound shock, and not actually dying. And, by carefully examining the statistics of the hospital for the last twenty years, we find that the mortality is wonderfully decreased by so doing. And just here let me say, that the comparison of the records of other hospitals with the records of this hospital shows that more amputations are done here, than are done in any other hospital in the United States; and further, that, according to the number of patients treated, more amputations are done in the Western Pennsylvania Hospital than are done in any other hospital in the world. This statement is the result of careful researches and examination of records and statistics of this and other countries.

Now, in cases of accidents, the question you

will often be called upon to decide will be, "Is amputation required or not?" While we try to practice conservative surgery here, and try to teach you conservative surgery, we desire to teach you that *intelligent* or *practical* conservatism which is such a priceless boon to him who possesses it. To illustrate, you see the middle finger of this crushed hand. Although the bones are not broken, the soft parts are contused and lacerated almost its entire length. One kind of conservatism might save that finger. The man would be compelled to remain in the hospital for six weeks, then carry it in a sling for six months, and at the end of that time have a stiff, crooked, useless member, which would continually interfere with the performance of his duty, and perhaps in one year he would come back that we might remove the unsightly, useless member. This is not the conservatism that we would teach you. A member that is preserved merely to hang to the body of the patient as a useless, unsightly encumbrance, and to interfere continually with the proper performance of his duties, or station in life, does not exhibit the practice of true conservative surgery. I will remove the index and middle fingers of this hand at the metacarpo-phalangeal articulation, and in order to get skin enough to make good flaps, will saw off the head of the metacarpal bones. This will leave the man a reasonably useful hand, because he has his thumb remaining, as well as his fourth and fifth fingers. I think that the loss of a thumb is almost equivalent to the loss of a leg, because the remaining fingers having no opponent, are thereby rendered almost useless also. This hand will be dressed in the usual manner, with antiseptic dressing, and we may bring him before you again.

EXCISION OF THE METATARSAL BONE.

We have another case here which will serve as an example, and a warning in regard to the care of the feet. This old gentleman is an Irishman 65 years old, a daily laborer, and resides in that odorous as well as historic locality known as "The Point," and within a short distance of old Fort Duquesne. He was a gay young man at one time, fond of dancing and of wearing tight shoes; and as a result we see such a deformity of his feet as it is but rarely our privilege to behold. His great toe lies almost transversely across the second and third toes, and these, together with the fourth toe, are all dislocated at their metatarso-phalangeal articulation. The elastic spring of the foot is lost, and he walks on the base of the phalanges, over the site of which bunions have formed, which have become so painful that he can only walk with great pain and difficulty. In buying a shoe, the sole should be at least as wide as that of the foot. It seems that people will subject their feet to more pain and agony, for sweet vanity's sake, than they will any other part of

their bodies. It is no rare thing to see women especially with narrow heels on their shoes, 2 inches high, not under the heel of their foot, but under the middle of their foot, and their toes all cramped down into the point of a narrow shoe, causing corns, bunions, warts and deformities, and not unfrequently dislocating the tendon of the tibialis posticus muscle where it passes behind the malleolus; and not only all of these, but the general health suffers, because they who cannot walk cannot take that exercise so conducive to perfect health.

In recent deformities of this kind, or where the deformity is not great, no operation is required. In these cases Dr. Lewis A. Sayre puts a rubber stall over the toe, and to this attaches a strong piece of elastic rubber, and to this fastens a strip of adhesive plaster. The toe is then brought into line, and the plaster fastened to the heel, thus, through the elastic, keeping up a steady traction on the toe.

Now, we propose to do something to relieve this gay Lothario, and but one choice is left us, namely: excision of the metatarsal bone. There are two ways of doing this, however. One way is to open the joint and excise the head of the bone; the other way is to remove a piece from the shaft of the bone below the joint. I propose to open the joint and excise the head of the bone. There are two incisions that may be made here, a straight or an oval, but, as I think I can expose the head of the bone with considerable ease, I will make a straight incision. After the head of the metatarsal bone is removed and the toe brought into position, the base of the phalanx and the sawn surface of the metatarsal bone will be held in close apposition by wires passed through both bones. I will also excise the head of the second, third and fourth metatarsal bones. By a little attention the foot may now be made to present a reasonably good appearance. It will be retained in as good a position as possible by bandages, and in a few weeks this man will have less distress in walking, although he may still not have a perfect foot.

December 22, 1888.

I will show you first to-day the case in which we excised the head of the metatarsal bones of the first, second and fourth toes, two weeks ago. You remember the great toe lay directly across the ends of the second and third toes, and that the toes were all dislocated at their metatarsophalangeal articulations. You see now that the toes all present a reasonably good appearance, and that the great toe is in a line with the inner border of the foot, as it should be. The original dressing put on this foot was not disturbed till the end of ten days, when it was removed and the condition you see here was presented. There is still a wire suture remaining in the wound, but if the wire does not disturb the man we will not disturb the wire.

OPERATION FOR TUMOR ON THE FACE.

The next case is one of tumor occupying the side of the face, or overlying the parotid gland. This man says that it has been growing for twenty years, but that ten years ago it was removed or partly so, but that it began to grow again, and has continued to increase slowly ever since. You can see the cicatrix where it was opened before. Now, the growths that may occur in this locality are various, as enlarged lymphatic glands, enlarged parotid gland, encysted tumor in the parotid gland—and this latter is what I believe this to be. If this is the case I will not likely be able to remove it whole, as it will likely rupture or tear, and the contents be evacuated. In that case I will make an effort to remove the sac by cutting, dissecting or tearing it out. If I am unable to do this I will simply cut off the outer portion, insert a drainage-tube, and sew it up. In removing tumors it is always well to make a free incision through the skin, in order to give yourself plenty of room, then cut down carefully until you find the capsule and cut through it; however, as I do that in this case, the sac is torn and the contents which consist of a large amount of colored blood plasma. I find that the sac is very intimately attached to the surrounding structures, and that the parotid gland is involved in the mischief. If it were not for the long standing of this growth I would look upon it with suspicion, and as it is I am not satisfied that it is not a malignant growth. We will wash the cavity out with bichloride solution and provide free drainage, and make an effort to convert it into an abscess and prevent its return provided it is not malignant.

It is very unsatisfactory to begin an operation and not be able to finish it. You should never begin an operation with so much determination that you cannot stop, when you find that it is to your patient's detriment that you go any further. This is frequently done by surgeons, especially in laparotomies. They open the abdomen expecting to find a certain tumor, or condition, and failing to find what they expected, they cut, and probe, and search for what they wish to find, until they do irreparable injury to their patients. Always be prepared to end an operation when you find that you can do no more good, however unsatisfactory it may be.

FRACTURE OF THE TIBIA AND FIBULA.

We have here another case, a man with a fracture of the tibia and fibula, at their lower third. You see we have all of the symptoms of fracture here. Now this was done by direct violence (this man was struck with a stone) and is much more dangerous than if it had been done in jumping from a height, or any other indirect violence. It requires a much longer time to heal. We had a man in the wards here last summer, who was struck with a brick, and it was six months before

it healed. In cases like this, where there is so little swelling and tumefaction, it has been our practice to incase the limb in a plaster dressing at once, but it has been my fortune to see a good many cases of delayed union follow this practice, so I am beginning to look on it with suspicion. It may be that a sufficient amount of blood is not sent to the part under a plaster dressing, or that this dressing in some other way interferes with perfect union. I am, therefore, inclined to try the other way for awhile in cases of fractured leg from direct violence, or until the same bad results convinces me that the early dressing in plaster is not in some way responsible for the delayed union. This limb will, therefore, not be dressed in plaster for four or five days more. It is now two days since the accident occurred.

OPERATION FOR INJURY TO THE FOOT.

Another case is that of a boy who six months ago fell from a hay-loft, injuring his foot. The leg and knee soon became swollen, and when the swelling subsided the numerous openings you see appeared over the front part of the leg. These openings have a pouting appearance, peculiar to themselves, and they are called "cloacae," from their fancied resemblance to the anus of the hen, they always lead down to dead bone. As I pass the probe down I come in contact with dead bone at once. You will also notice another defect in this leg, namely, that it is bowed outward. This is caused by the fact that part of the tibia has been lost through necrosis, and the entire weight coming on the fibula, it has given way, or bent from the pressure, causing the bowing of the leg. Now we propose to cut down on the tibia and remove the necrosed bone, and in order to cause the sole of the foot to set flat on the floor we will fracture the fibula, and allow the fragments to overlap each other to a small extent, thus reducing the length of the fibula to that of the tibia. I will make an incision, clear down on to the bone, then with a periosteum elevator, lift up and preserve the periosteum. You see that the tibia is separated at its epiphysis above the ankle, and with very little force I am able to remove a sequestrum about 8 inches long, and almost a perfect mold of the tibia, except where it has been destroyed by the disease. It is the most perfect specimen of sequestrum that I have ever removed from so small a limb. I will pack the cavity with iodoform gauze, and leave the lower one-third of the wound open for the purpose of drainage. The boy, I think, will have a reasonably good limb, although amputation of the limb was at one time considered necessary.

EXTIRPATION OF AN EYEBALL.

January 5, 1889.

I have a patient to-day for whom I will extir-

pate an eyeball. This, properly, should be done by the ophthalmologist, but as this is an operation which you may all be called upon to perform in your practice, I thought proper to bring the case before you to-day. Besides, if all the accidents to the eyes are given to the oculist, and the gynecologist does all the operations falling within his line, and the genito-urinary specialist is given all cases peculiar to his practice, and all the other specialists get their share, there will be but little left for the general surgeon. I, myself, am a specialist, and my specialty is, as Mr. Wilson once said, the skin, and all it contains. When the eye is hopelessly destroyed it should be removed. Because, in the first place, an artificial eye may be better worn, and in the second place, the inflammation and the pathological changes which are set up, are capable, by sympathetic action, of destroying the sound eye. And although the inflammation may be subdued for the time being, and the useless member allowed to remain, still at any time, and from slight provocation, a new inflammation may be set up and the sound eye be quickly destroyed. This man was struck in the eye by a piece of steel, six years ago, and had his eye destroyed. It did not, however, give him much trouble until within a few days, when a new inflammation attacked it, and which is now slowly invading the other eye. The man has applied to us for relief, and extirpation has been decided upon. In doing this the wire speculum is inserted to hold the lids apart. The conjunctiva is then picked up with a small forcep and cut clear around, near the cornea. The recti muscles are then all divided, as close to the sclerotic as possible, and the eye will then bulge forward. You then use a pair of curved scissors to cut off the optic nerve. Of course, when about to do the operation, you will be careful about the eye you are going to remove. Surgeons have been known to remove the wrong eye. This would be a great mistake. After the recti muscles are all divided you introduce the scissors, closed, and feel for the optic nerve. I prefer to introduce the scissors on the nasal side, as the nerve is nearer that than the other side. When you have found the nerve the scissors are opened sufficiently to grasp the nerve and snip it off, as I do here. After the nerve is divided the oblique muscles still remain, which I will divide close to the sclerotic, when the globe is removed with ease. The eye should, where possible, be removed before the humors are allowed to escape, as it is done with less facility when emptied of its fluid. If there is any bleeding in the wound a little water usually controls it, if not, then a cotton compress held in the socket by a bandage is sufficient to control any hæmorrhage there is likely to be. In about three or four weeks this man can be fitted with an artificial eye. He will for the present be kept quiet and his eye kept bandaged.

AMPUTATION OF THE LEG.

We will next show you a boy for whom I amputated a leg just twenty-four hours ago. There has been some rise of temperature, and some soiling of the dressings, so I will take the dressing down and ascertain, if possible, the cause of this disturbance. As I inserted a rather large drainage tube I will now remove it. I think that by this time the serum is all drained from the wound, so that it will not suffer by the removal of the tube. The wound will then be redressed and not disturbed for two, three, or perhaps for four weeks, unless another rise in temperature should indicate that all is not going on well. A large amount of dressing should be placed over wounds like this, so as to absorb all the fluids that may come from the wound, because the moment that the blood shows itself on the outside of the dressings the danger to septic infection at once begins, as the germs more easily penetrate the dressing. It is for this purpose that we use such large amounts of absorbent cotton. And in regard to bandages let me say here, that the ordinary crinoline bandages are the best for wounds like this. When applied wet they adapt themselves nicely to all inequalities of the surface and when they afterward become dry the sizing which is contained in their meshes acts in a modified degree like the plaster in a plaster dressing, making a firm and altogether very excellent dressing. For fractures where you wish to hold parts in apposition, or where you wish to retain splints, or make pressure, the ordinary unbleached muslin makes better bandages. This wound will now be redressed, antiseptically, much the same as an original wound, with the exception of a drainage-tube, and we anticipate no more trouble from it.

MEDICAL PROGRESS.

ACUTE GENERAL ŒDEMA OF THE LUNGS.—DR. M. GROSSMANN has made a number of experiments supplementary to a work previously published on "Muscarin-Œdema of the Lungs." Recent investigations treat the subject of acute general œdema of the lungs on a broader basis, inasmuch as they touch not only muscarin œdema of the lungs but also the acute general œdema, originating from certain other especially mechanical influences. In reference to this it is proven that in the dog—not in the rabbit only, as was supposed—an acute general œdema of the lungs is produced by obturation of the left auricle and by squeezing the left ventricle.

The investigations furthermore extended to the nature of the difficulty in breathing, hitherto unknown, which appears in a lung overfilled with blood which transudes readily. It is proven that

but secondary importance is to be attributed to the transudation itself, and that the principal obstruction to breathing originates from the rigidity of the lung. The supposition that the capillary ecstacy caused by the stopping of the blood produces the obstacle to breathing by diminishing the alveolar space is disproven by the fact that in consequence of the congestion not a diminution but an enlargement of the alveolar space, *i. e.* an enlargement of the lung occurs. The author furthermore mentions experiments which show that transudation artificially produced is not an essential obstacle to breathing, from which he draws the conclusion that no especial significance attaches to transudation as an obstacle to respiration. Supplementary to the theory of muscarin intoxication, his recent experiments show that through this poison not only congestion and œdema but also swelling and rigidity of the lungs and bronchial convulsions are produced.

The author describes the process of acute general œdema of the lungs in this way, that the congestion in the lung, by producing enlargement and rigidity, becomes an obstacle to respiration and causes as a final anatomical result transudation.

The primary cause for congestion of the lungs the author, on the ground of his experiments, finds in a narrowing of space of the left portion of the heart, as opposed to the theory of Cohnheim, Welch, who considered a paralysis of the left side of the heart as the cause of œdema of the lungs.—*Internationale Klinische Rundschau*, 1889, No. 15.

ON THE INFLUENCE OF THE DIFFERENT METHODS OF TREATMENT OF ABDOMINAL TYPHUS IN CHILDREN UPON FLUCTUATIONS OF TEMPERATURE AND BODY-WEIGHT.—DRS. LUMIN O. MEYER, R. PETERS and C. TANNENHÄUSER report a number of cases from the hospital for children of the Prince of Oldenburg, of the years 1875, 76, 77, 84, 85, 86 and 87. Excluded were cases in which the fever lasted only one week, such as originated during the last period, and cases complicated with other diseases. Therapeutic experiments were made—1, with baths of 38° C. to 8 times daily, in temperatures exceeding 30° C.; 2, baths of 33° C. with dashes of 22–18°; 3, 4 to 12 dashes daily; 4, large doses of quinine 0.3 twice or 0.5–1.00 once daily; 5, large doses of quinine simultaneously with antipyrin; 6, antipyrin; 7, quinine an antifebrin; 8, antifebrin; 9, amm. salicylate. To render a comparison possible a series of cases was treated expectatively with acid muriatic. For each individual case the average temperature of 5 to 10 measurements was calculated, and with these figures an ideal curve drawn for each. A comparison of all the curves showed remarkable similarity. All curves descend gradually and in

steps, the temperature reaches its acme on the fourth day, to fall after that, only in the cases observed from the first day of sickness a rapid rise of the temperature was noted in the beginning. The antipyretic methods above mentioned did not alter the temperature curve at all. The weight of the patients was taken from one to seven times a week, the daily loss was figured out in per cent. of the body weight as existing on the day of reception into the hospital; the gain, however, in per cent. of the lowest body weight observed.

Dr. Senetz, of St. Petersburg, declares that the measurement of weight in his cases of abdominal typhus showed that an energetic antipyresis had an effect upon the body weight in so far that its decrease lasted for a longer time, and its increase was slower than with indifferent treatment, that the curve of body weight is one of the most reliable clinical symptoms for judging the course of the disease, and that with an energetic antipyresis the course and convalescence are more protracted; in children from 7 to 8 years old the body weight increases much more quickly and a cure ensues sooner than in adults.—*Internationale Klinische Rundschau*, 1889, No. 15.

RESECTION OF THE ENSIFORM CARTILAGE.—An important paper has recently been presented to the Royal Academy of Medicine and Surgery of Naples by a young surgeon, DR. RINONAPOLI, of Collamele, in the province of Aquila, giving the details of an operation for resection of the ensiform cartilage. Only one such case has been previously recorded—by Linoli, in 1857. A man was injured by a horse rearing and falling back upon him. His chest was violently compressed, and the ensiform cartilage dislocated backwards. The displaced cartilage, by its pressure on the stomach, was productive of very severe gastric disturbance, which at length became so great that not even the smallest quantity of milk could be taken without terrible pain. The patient rapidly wasted away, and his life was despaired of. Various diagnosis were made, but it was left for Dr. Rinonapoli to discover the true state of affairs. Being convinced of the accuracy of his diagnosis, and fortified by the opinions of two colleagues, Dr. Rinonapoli gained the consent of the patient and his friends to an operation.

The minutest antiseptic precautions (carbolic acid and perchloride of mercury) were observed. An incision six centimetres long was made, the upper third being over the sternum. Dissection was carefully carried down to the peritoneum, which was not opened. The cartilage was separated from the structures enveloping it, and, finally, its attachment to the sternum was divided by passing a probe-pointed bistoury behind and cutting forwards. The wound was carefully cleansed and brought together by sutures. In

the course of five weeks the patient had completely recovered. The points of interest connected with the case are: 1. That it is only the second recorded. 2. The peritoneum was not opened. 3. It was undertaken by a young surgeon in a country district in Italy, who, with the assistance of two other country surgeons, carried it through in the most praiseworthy manner. Dr. Rinonapoli worthily won his admission to the Royal Academy of Medicine of Naples, for which Professor Fusci stood his sponsor.—*Lancet*, March 16, 1889.

ON COCAINE—EPILEPSY.—DR. C. HEIMANN, of Charlottenburg, reports in the *Deutsche Medicinische Wochenschrift*, the case of a patient in whom after long subcutaneous use of large doses of cocaine (up to 8.0 daily), besides cocaine-paranoia (repeatedly observed during the past years by the author and others), epileptic convulsions occurred. They closely resembled the classical symptoms of epilepsy, and were accompanied by disturbances of the sensorium, complete numbness, subsequent failure to remember the attack, etc. After stopping the use of the poison the morbid symptoms, hallucinations, perverse sensations, frenzy, etc., disappeared, and the convulsions ceased but recurred always when large doses of that drug was used. Now since no other causative factor for epilepsy existed in the patient, hereditary influences were missing, and convulsive conditions had never before been known to him, the author concludes that in this case epilepsy was caused by the alkaloid. This conclusion is supported by experiments on animals in which epileptic fits also occurred after cocaine.—*Therapeutische Monatshefte*, 1889, No. 4.

ON THE WASHING OF THE ORGANISM IN INTOXICATIONS.—PROF. SANQUIRICO has shown that the fatal consequences of an acute intoxication produced by various substances can be avoided by means of washing the organism as proposed by him and often tested, and that this antitoxic treatment is often more valuable than all other methods used in cases of poisoning. Prof. Sanguirico now describes a modification of his treatment which experimentally has proven perfectly effective. The modification consists in this, that for the poisoned individual he makes use, on the one hand, of the physiological antagonism of a drug capable of fully exerting the latter, and on the other hand of the depurative effect of the washing. With this combined action—which is variously applied in given cases—the author wants to serve a two-fold purpose:

1. To obtain a cure in animals poisoned by a quantity against which either of the two ways alone would be insufficient.

2. To obtain a success also in those cases of poisoning in which the simple washing as well as

also the action of a powerful antidote proved useless.

A long series of tests made by Prof. Sanquirico have established the undoubted efficiency of the combined treatment in cases of acute poisoning. It might, therefore, also be used to advantage in acute intoxications in man.—*Internationale Klinische Rundschau*, 1889, No. 15.

CHLORIDE OF BARIUM IN HEART DISEASE.—According to *Les Nouveaux Remèdes*, H. A. HAZE prescribed the chloride of barium in seven cases of heart disease (once for an infant 6 years old with lesion of the mitral, once for acute dilatation of the heart, twice for lesions of the aorta and once for lesions of the mitral in an adult, and twice for functional disturbances of the heart). The results obtained were very good. In all cases the drug slackens and regulates the heart-beat, augments the amplitude of the pulsations without producing as pronounced a tension as the finger applied to the artery feels after digitalis. At the same time the pulse is considerably prolonged. No renal troubles. The author administered the drug in a 1 per cent. water solution; 1.50 to 2 gr. of this solution repeated three times daily for children, and 5 gr. two or three times daily for adults. In these doses it may be considered as not toxic. As it is, besides, almost tasteless and inexpensive, and acts as rapidly as digitalis, it is to be supposed that this drug will soon render valuable service in the treatment of heart disease.—*Journal de Médecine de Paris*, 1889, vol. xvi, No. 15.

THE TREATMENT OF ACNE.—DR. ISAAC, assistant to Dr. Lassar's clinic for skin diseases in Berlin, discusses in the *Berliner Klinische Wochenschrift*, No. 3, 1889, acne and its treatment. As an etiological factor in the production of acne, he considers that hereditary peculiarities in the opening of the sebaceous glands may have an influence. In such cases the sebaceous duct is wide and funnel-shaped, offering a nidus for dirt and other septic material. Though such anatomical peculiarities may in exceptional instances predispose to acne, its causes are to be sought for in disturbances of the digestive, circulatory, or of the generative apparatus. The treatment in vogue at Lassar's clinic is the following:

R. Beta naphthol. 10.0.
Sulph. præcipitat. 50.0.
Saponis virid.
Vaseline aa 20.0.

This salve is applied thickly to the affected portion of the skin either by a brush or a spatula, and left *in situ* for from half an hour to an hour. On the following day one notices some desquamation of the epidermis and slight irritation and retraction of the skin. This procedure is repeated every day until desquamation of the entire epider-

mis has taken place. Should much irritation be produced, the treatment may be temporarily stopped and the affected surface covered with an indifferent powder or with Lassar's paste. For especially stubborn cases the following modification of the ointment may be applied:

R. Pulv. cretæ albæ 5.0.
Beta naphthol.
Camphor
Vaseline aa 10.0.
Saponis virid. 15.0.
Sulphur præcipitat. 50.0.

The addition of the camphor increases the irritative power of the ointment, which in this form should only be left on the skin fifteen minutes.

Another formula which has been found serviceable in the treatment of acne is the following:

R. Resorcin
Zinc oxid
Amyli aa 5.0.
Vaseline 10.0.

—*Jour. of Cut. and Gen.-Urin. Dis.*, May, 1889.

ON THE INOCULATION OF CARCINOMA UPON ANIMALS.—Although carcinoma is a tumor producing metastases, it has so far been found impossible to inoculate it from men upon animals, or from animals upon animals. Transplantation has been attempted from dogs to dogs, or even to rabbits and guinea-pigs, but these attempts have proven futile. MR. HANAN, of Zurich, succeeded in transferring the carcinoma of a rat affected with papillar cancroide to two animals of the same species. He inoculated these two rats in the tunica vaginalis of the scrotum, which in these animals communicates with the peritoneum. At the end of seven weeks one of the rats died from carcinoma. The entire epiploon was covered with nodosities, some the size of a pea, some smaller. The axillary and inguinal glands were similarly affected. These tumors when examined under the microscope showed the same type of carcinoma as that from which the virus was taken. The autopsy of the second rat was made in the presence of Professor Koch, and disclosed analogous alterations.—*La Semaine Médicale*, No. 18, 1889.

TREATMENT OF ONYURIS VERMICULARIS.—GUBB, *London Med. Record and Allgem. Med. Centralz*, 1889, No. 16, recommends rectal injections of pure cod liver oil or an emulsion of it with eggs, as reliable and not irritating. Grimaud calls attention to the fact that Lallemand (Montpellier) obtained the most reliable results with natural sulphur waters. He (Grimaud) also had opportunity to convince himself that sulphur water is poisonous for intestinal worms. It may be used internally or per clyisma, and the worms will soon disappear without returning.—*Therapeutische Monatshcft*, 1889, No. 4.

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LONDON OFFICE, 57 AND 59 LUDGATE HILL.

SATURDAY, JUNE 1, 1889.

SPECIAL NOTICE.

At the moment of going to press a circular has been received calling attention to the "*American Medical Association Annual*," and seeming to represent the Medical Association, soliciting advertisements.

It is proper to state that THE JOURNAL is the only official organ of the Association, and is alone authorized to receive advertisements in its interest.

The Board of Trustees has full control of THE JOURNAL, and as neither the Board, nor its special Committee on Management, nor its editor has any knowledge on this subject, we are at a loss to know upon what authority such solicitations are made.

It is certainly not the purpose of the Association to be related to advertisers in any other manner, than through its official organ—THE JOURNAL.

DEVENTER'S METHOD OF DELIVERY OF THE
AFTER-COMING HEAD.

The utterances of DR. JOHN BARTLETT upon obstetrical topics always deserve and commonly receive close attention. It is the purpose of this note to discuss briefly his last contribution to the art of midwifery, "*A Study of Deventer's Method of Delivering of the After-Coming Head*."¹

As interpreted by Dr. Bartlett, Deventer's plan differs in essential points from the procedure in vogue, known as the Smellie-Veit method. The posture of the woman is identical with that commonly assumed at the present day—dorsal decubitus, hips elevated. As soon as the child has passed so far as the base of the thorax, extractive efforts are to be made, in a direction downward and a little backward. When the arms are within reach an examination of their relation to the head should be made. Should their position be favorable, that is, on either side of the head, resting anteriorly to the parietal protuberances, delivery may be at once proceeded with. But if the position be unfavorable it should be corrected, either by adjusting the arm to its proper site, or, in the event of that being impracticable, as in case the extremity were in front of the forehead, or behind the occiput, by bringing it down in accordance with established rules. From the moment that the head enters the pelvis the woman must be earnestly called upon to second the efforts of the accoucheur by bearing down with all her power. After the arrest of the chin at the pelvic floor, pressure should be made over the occipital end of the head as nearly behind the anterior wall of the pelvis as practicable, with the view of causing descent of the occiput, and a relieving extension of the head. In a typical case, the occiput appears under the pelvic arch, and the delivery is accomplished with the chin in forced extension, instead of flexion, while the arms are extended along the sides of the head.

The "particular advantages" of Deventer's plan over the Smellie-Veit method, according to Dr. Bartlett, are:

1. What Barnes might call the decomposition of the wedge of the shoulders; in lieu of the bis-acromial diameter presenting at the superior strait, it is the bis-axillary diameter.

2. The arms extended upon the head bridge over the space between it and the body; thus extended they (*a*) act as fenders for the cord, keeping open channels through which the funis may pass uncompressed; (*b*) they antagonize that spastic contraction of the uterus which, closing in upon the lower circumference of the after-coming head, is one of the causes of fatal delay in delivery in these cases.

¹"A Study of Deventer's Method of Delivering of the After-Coming Head." Transactions of the International Medical Congress. Ninth Session. Vol. ii. p. 438.

3. By this method the delivery of the after-coming head is very greatly simplified. In the majority of instances it may be unnecessary to interfere with the attitude of the head; Deventer claims that, with few exceptions, the head will "shoot through" both straits easily.

4. The delivery by extension is very much more expeditious than the ordinary method. Precious time is not lost in bringing down the arms, inserting the fingers in the child's mouth, etc. As a consequence, if the experience of Deventer is to be relied upon, it would seem to be safer for the mother, and very much safer for the child, than other methods.

Adequate evidence from clinical observation to support these propositions is not supplied by Dr. Bartlett in this essay. They are conclusions drawn purely from *à priori* considerations and from Deventer's alleged successful treatment of artificial breech presentations.

Dr. J. H. Chew,² of Chicago, has written an excellent history of one case of delivery by Deventer's method. As at present informed, this single case constitutes the only example of the procedure in practice that has been recorded within recent years. Charles T. Parkes, of Chicago, George Wheeler Jones, of Danville, Ill., Frank L. Wadsworth, of Chicago, and others, have indeed cited cases in which the method was successfully employed, but, in the absence of exact accounts of the conditions and indications present in such cases, the testimony of these gentlemen cannot be accepted as competent.

In this connection, it may be remarked that Dr. Bartlett's citation of Zweifel's statistics of version is not pertinent. Dr. Bartlett writes: "According to statistics presented by Zweifel, in 3,475 versions the mortality was 58.9 per cent. Says Deventer: 'If this operation of version and extraction of infants be cautiously and skillfully managed, the infant is not exposed to the danger of death.'" Upon the one hand, Zweifel's statistics, as a reading of the context shows, are drawn from cases in which internal version was performed under all possible indications. In many cases, the infants were dead before the operation was performed. They relate to the prognosis of version, not to the prognosis of extrac-

tion. Upon the other hand, no practitioner will accept Deventer's dictum that if his operation of version and extraction be cautiously and skillfully managed, the infant is not exposed to the danger of death. Experience teaches that in version and extraction, no matter how favorable the conditions may be, there is always grave danger of death of the infant.

This misuse of statistics may be allowed to pass as a rhetorical subterfuge—as an example of antithesis—but its bearing on the question under discussion must be absolutely rejected.

The fourth and third propositions, formulated by Dr. Bartlett, cannot be sustained. Note that the propositions are universal, that they include all cases. Now it is an obstetrical axiom, from which no man can withhold assent, that that procedure in these cases is safest for both mother and child that imitate most closely the natural mechanism of labor. The natural mechanism constitutes the most advantageous mode of delivery both with reference to the mother and the child. Neither will any one venture to deny that the natural mechanism of labor is most closely simulated by the Smellie-Veit method. The conclusion is obvious.

The Smellie-Veit method of manual aid, originally proposed by Mauriceau, in 1668, and modified by Lachapelle in 1821, consists first in the liberation of the arms, and secondly in the delivery of the head by flexion of the chin upon the sternum by the finger passed through the mouth to the lower jaw, and by traction applied chiefly to the shoulder through the fingers that fork-like are placed on either side of the neck.

In normal cases of natural or artificial breech presentation—these are included in Dr. Bartlett's proposition—the practice of Deventer's method means as forcibly remarked by Dr. Knox,⁴ the production of a malposition and then a hunt for a new method to escape from the difficulty. The second proposition seems too fanciful to analyze critically, while the first is manifestly untrue.

Deventer's method doubtless has its place, and under certain conditions may even come to be the operation of election. Thus Smellie points out cases of dystocia in which the procedure may be useful. He writes: "When the forehead is hindered from coming down into the lower part of the sacrum by an uncommon shape of the head

² Transactions of the Chicago Medical Society, December 27, 1888. Supplement to Western Medical Reporter, February, 1889.
³ 15. Lehrbuch d. Geburtshilfe Stuttgart, 1887. Page 612.

⁴ Transactions of Chicago Medical Society. loc. cit.

or pelvis, and we cannot extract it by bringing it out with a half-round turn at the os pubis; we must try Deventer's turn in the contrary direction."

ILLINOIS STATE MEDICAL SOCIETY.

The thirty-ninth Annual Meeting of this Society was held in Jacksonville, Ill., May 21, 22 and 23, 1889, and was attended by about 200 members. The season was pleasant, the city beautiful, the accommodations provided by the Committee of Arrangements convenient, and the members engaged harmoniously in the legitimate work of the Society. Reports and papers of interest pertaining to almost every department of the science and art of medicine were read and discussed with profit and with much less waste of time than usual. The meeting was called to order at 10 A.M. Tuesday by the President, Dr. C. W. Earle, of Chicago. In the absence of the Mayor, a brief and appropriate address of welcome was delivered by City Attorney Yates, and was responded to in behalf of the Society by Dr. N. S. Davis, of Chicago. In the evening the members of the Society and a large audience of citizens assembled in the Presbyterian Church to hear the President's Annual Address, and also a most interesting musical and literary entertainment by the pupils of the Illinois Institution for the Education of the Blind. Dr. C. W. Earle, the President, has been the attending physician of the Washingtonian Home of Chicago for many years, and thereby brought in close contact with many thousand inebriates; and his address, which was on the subject of "Inebriety and the Responsibility of Physicians in prescribing Alcoholic Remedies in the Treatment of Disease," was listened to with marked attention. He combated vigorously the doctrine that drunkenness was the result of a primary disease of the brain and nervous system, called *inebriety*, or in any considerable degree derived from hereditary influence. He claimed that three-fourths of those addicted to the use of alcoholic drinks were fully able to reform whenever they choose to make a judicious and earnest effort to do so. He admitted, however, that in one-fourth or perhaps less, the long continued use of alcohol had produced such structural changes as to render them incapable of self-control, and for such the State should provide suitable asylums and legal restraint on

the same principles that guide in the control of the insane.

The attention of the Society had been chiefly occupied during the day with the important subjects of Pneumonia and Diphtheria, they being presented both in the report of Dr. C. F. Robinson, of Wyandot, Chairman of the Committee on Practical Medicine, and a paper by Dr. J. A. Baxter, of Astoria, and by Dr. Geo. N. Kreider, of Springfield, in a paper on "Tepid Baths in the Treatment of Pneumonia." These papers and the discussions elicited by them, developed the important fact that in many parts of the State pneumonia had been more prevalent than usual during the months of February, March and April of the present year.

The Society was fully occupied with reports and papers on diseases of children, gynecology and obstetrics during the second day, and was entertained by a complimentary concert given by members of the Faculty of the Illinois Conservatory of Music of Jacksonville, in the evening. On the third day work was commenced at 8:30 A.M. and continued until near 2 P.M., after which the members were taken to the Hospital for the Insane. During the session, the time was occupied closely and profitably in considering the report of the Committee on Surgery, and volunteer papers by Drs. E. Andrews and A. E. Hoadley, of Chicago, and Dr. David Prince, of Jacksonville, and the report of the Committee on Ophthalmology and Otology by Dr. H. M. Starkey, of Chicago, and Dr. A. E. Prince, of Jacksonville.

Throughout the three days' sessions it was generally conceded that the Illinois State Medical Society had enjoyed no more pleasant or profitable meeting during its past history, than the one we have thus briefly outlined.

WAS IT A DECOY OR SILLY "CATCH," OR A REAL ATTEMPT TO GAIN POSSESSION OF A DIPLOMA, IN DUE FORM, UNDER THE PRETENSE OF HAVING IT CONFERRED UPON A "FRIEND?"

The following letter, dated Boston, Mass., April 12, 1889, was addressed to the Dean of the Medical Department of a University located east of the Alleghany Mountains, and by him forwarded to us:

"Dear Sir:—I take the liberty of writing you a confidential letter suggesting we exchange college honors. I

have the honor to be Dean of the Medical Department of a University in New England. If you will confer the degree of M.D., upon a friend of mine who is now a graduate in medicine, I will ask the Board of Trustees of the above-mentioned University to confer upon you, or one of your colleagues, the honorary degree of A.M. or LL.D., just as the person is qualified to receive. Hoping you will give this matter your immediate attention and forward an early reply, I am very truly,

"DR. P. RIPLEY.

"An envelope was enclosed for the reply directed to 'Dr. P. Ripley, 71 Cornhill, Boston, Mass.'"

Having a reliable correspondent in Boston, he was requested to inform us who Dr. P. Ripley was, and of what "Medical Department of a University in New England" he was Dean? In due time he replied saying that he did not find Dr. P. Ripley's name in either the last city directory or the last New England Medical Register; and further that "71 Cornhill" was the waiting-room of the Horse Railway Company, with no one there who knew of any such person as "Dr. P. Ripley." Whether the letter was intended for a *hoax* or a fraudulent attempt to obtain a diploma, it was equally disgraceful to its author.

EDITORIAL NOTES.

DR. CHAS. T. REBER died at his home, near Fancher, Ill., on the night of May 10, 1889, aged 53 years, 3 months and 22 days. He was a member of the American Medical Association. Was a surgeon of the 48th regiment Pennsylvania volunteers during the late war. He was a close student and a conscientious practitioner.

THE PROPOSED MEMORIAL TO THE LATE PROF. MOSES GUNN.—The Alumni and Faculty of Rush Medical College, Chicago, have been for some time engaged in the effort to raise by subscription a fund for the purpose of erecting in the college building a bronze to serve as a memorial of the late Professor Moses Gunn. Those purposing to contribute to the fund are reminded that their subscriptions cannot be received after the 15th of June. Sums varying from one to ten dollars can be sent to the College Clerk, Mr. F. J. Gould.

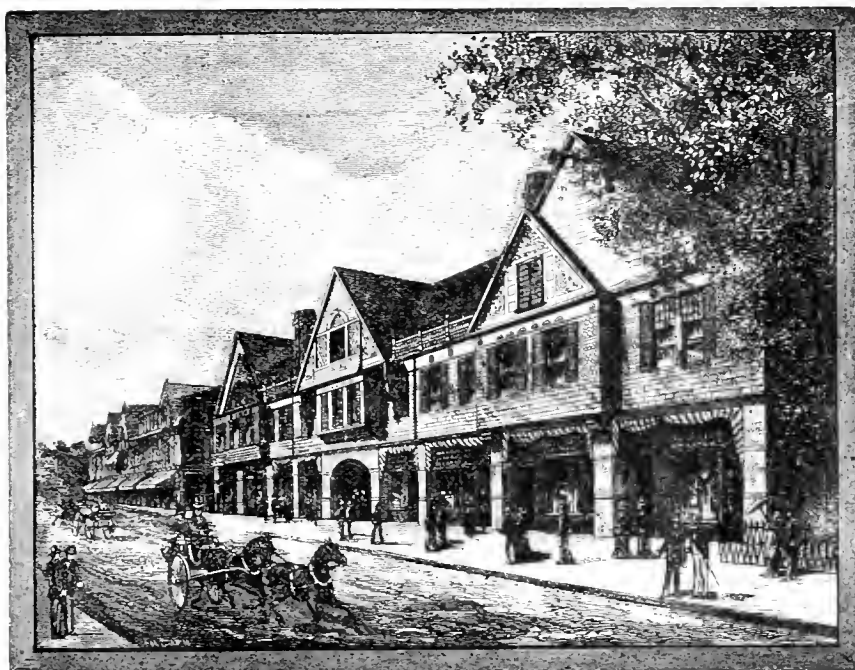
THE NEXT ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY will be held in Chicago on the third Tuesday in May, 1890. The following are the officers for the ensuing year: President, Dr. John Wright, of Clinton; First Vice-President, Dr. J. P. Matthews, of Carlinville;

Second Vice-President, Dr. T. M. Cullimore, of Jacksonville; Permanent Secretary, Dr. D. W. Graham, of Chicago; Assistant Secretary, Dr. L. Ware, of Chicago; Treasurer, Dr. Thomas McIlvaine, of Peoria.

DR. H. ISAAC JONES, who has been an active practitioner in Scranton, Pa., for fifteen years past, has changed his residence to 118 Grant Ave., San Francisco, Cal.

SURGERY AT THE INTERCOLONIAL CONGRESS.

—The special correspondent of the *British Medical Journal*, in reporting the proceedings of the Surgical Section of the Intercolonial Medical Congress of Australasia, recently held at Melbourne, says: Mr. T. N. Fitzgerald, the President of the Congress, delivered the opening address and dealt with the perennial subject of club-foot, especially talipes equino-varus. He has added yet another to the many methods of treatment before us. After subcutaneous division of all tendons and resisting fascial bands, Mr. Fitzgerald introduces a chisel through a valved opening in the skin, and cuts through the neck of the astragalus and the greater process of the os calcis; he then wrenches the foot into position, overcoming any further resistance by "guarded powerful blows" of a mallet. All this is done upon a bloodless limb, and the part is firmly bandaged before Esmarch's cord is removed. Mr. Fitzgerald is able to report that "within a month the patient learns to walk upon his practically new feet." If other surgeons can achieve equally good results, this contribution to surgery is indeed a valuable one. It has distinct advantages over tarsectomy and the excision of bones; but, like these operations, it fails to deal with the faulty position of the os calcis beneath the astragalus. The treatment of hydatids naturally came up, and was exhaustively dealt with by Dr. Davies Thomas, of Adelaide. Dr. Thomas regards the tapping of cysts as both dangerous and ineffectual, and his tables show a mortality of 18.88 from the operation. Evidently more investigation upon this point is needed, for Victorian surgeons—as we are informed—find tapping and aspiration to be in most cases quite sufficient. Twenty successful cases of subrapubic lithotomy, by Mr. O'Hara, form no mean contribution to the subject; and Dr. Tremearne introduced an ingenious method of draining the bladder, which is capable of many applications.



THE CASINO.

Where the Sessions of the Association will be held.

American Medical Association

LIST OF OFFICERS AND PROGRAMME OF THE FORTIETH ANNUAL MEETING.

TO BE HELD AT NEWPORT, R. I., JUNE 25, 26, 27 AND 28, 1889.

GENERAL OFFICERS:

President—W. W. DAWSON, M.D., Cincinnati, Ohio.

Vice-Presidents—W. L. SCHENK, M.D., of Kansas; FRANK WOODBURY, M.D., of Pennsylvania;

H. O. WALKER, M.D., of Michigan; J. W. BAILEY, M.D., of Georgia.

Treasurer—RICHARD J. DUNGLISON, M.D., lock box 1274, Philadelphia, Pa.

Permanent Secretary—WM. B. ATKINSON, M.D., 1400 Pine Street, Philadelphia, Pa.

Local Secretary—VALENTINE MATT FRANCIS, M.D., New York.

Librarian—C. H. A. KLEINSCHMIDT, M.D., Washington, D. C.

Chairman Committee of Arrangements—H. R. STORER, M.D., Newport.

The General Sessions will be held at the Music Hall, Bellevue Avenue, adjoining the Ocean House, and those of the Sections at the Newport Casino, also immediately contiguous, which for the first time in its history, and as an act of courtesy, is permitted by its Governors to be occupied for other than the purpose for which it was built.

PROGRAMME OF GENERAL SESSIONS.

FIRST DAY, TUESDAY, JUNE 25.

Assemble in Music Hall, Bellevue Avenue, at 11 A.M.

Meeting called to order by Dr. Horatio R. Storer, Chairman Committee of Arrangements.

Prayer. Rev. Thatcher Thayer, D.D. (Cong.), the senior clergyman of Newport.

Reading names of delegates and others thus far registered, by permanent Secretary, Dr. Wm. Atkinson, of Philadelphia.

Announcement of the programme for the day, of halls for the Sections, that papers not already listed be handed to Chairman of Committee of Arrangements for reference to appropriate Sections, that Judicial Council meet at 2 P.M. at Newport Casino, and that, to prevent the usual haste and confusion, the delegates from the different States hold their separate meetings, to elect members of the Nominating Committee, at 9:30 A.M. Wednesday, at the Music Hall, half an hour before the general session.

Address of Welcome by Hon. Thomas Coggeshall, Mayor of Newport; by Dr. Henry E. Turner, of Newport, President of State Board of Health, on behalf of the profession of Newport; and Hon. James H. Eldredge, M.D., of East Greenwich, ex-President of Rhode Island Medical Society, on behalf of the profession of Rhode Island.

Presidential Address, Dr. W. W. Dawson, of Cincinnati, Professor of Surgery in the Medical College of Ohio.

SECOND DAY, WEDNESDAY, JUNE 26.

Meeting called to order by the President of the Association at 10 A.M.

Prayer.

Reading continuation of registry list, of programmes for the day, and call for reports of elections to Nominating Committee.

Address on Medicine, by Dr. Wm. Pepper, of

Philadelphia, Provost of the University of Pennsylvania.

Report of the Trustees of THE JOURNAL.

Consideration of proposed Amendments to the Constitution.

Announcement of Nominating Committee, and that it will report at close of Thursday's general session.

THIRD DAY, THURSDAY, JUNE 27.

Meeting called to order by the President at 10 A.M.

Prayer.

Reading of continuation of registry list, and of programmes for the day, and notice that all new business must be introduced at to-day's session.

Address on Surgery, by Dr. Phineas S. Conner, of Cincinnati.

Introduction of New Business.

Report of Treasurer.

Report of Librarian.

Report of Rush Monument Committee.

Report of Nominating Committee.

FOURTH DAY, FRIDAY, JUNE 28.

Meeting called to order by the President at 9 A.M.

Prayer.

Reading of continuation of Registry list, and of programmes for the day.

Address on State Medicine, by Dr. W. H. Welch, of Baltimore.

Report of Necrologist.

Reading names of newly elected officers of the Sections and Delegates to Foreign Societies.

Introduction of the President-elect by the retiring President.

Response by the former.

Final Adjournment.

PROGRAMME OF SECTIONS.

Section on the Practice of Medicine, Materia Medica, and Physiology.

Chairman—F. C. Shattuck, M.D., Boston.

Secretary—G. A. Fackler, M.D., Cincinnati.

FIRST DAY—JUNE 25.

1. Address of the Chairman.

2. "On the Passage of Portal Blood into the General Circulation, and its Probable Relation to Toxæmia," by Charles G. Stockton, Buffalo, N. Y.

Discussion by William Osler, Baltimore; W. S. Tremaine, U. S. A.; John H. Musser, Philadelphia.

3. "Dioscorea Villosa—Wild Yam," by J. V. Shoemaker, Philadelphia.

4. "New Plan for the Treatment of Pneumonia," by G. R. Martine, Glen's Falls, N. Y.

5. "Some Clinical Aspects of Vomiting," by John H. Musser, Philadelphia.

6. "Differential Diagnosis of Varicella and Varioloid," by James T. Whittaker, Cincinnati.

7. "Some of the Rarer and Graver Forms of Cinchonism," by I. E. Atkinson, Baltimore.

SECOND DAY—JUNE 26.

1. "Chronic Endocarditis," by Francis DeLafield, New York City.

Discussion by William Pepper, Philadelphia; W. W. Gannett, Boston.

2. "On the Nature and Treatment of Chlorosis," by William Osler, Baltimore.

3. "Hydronephrosis, especially as Caused by Functional Disorders of Micturition," by Robert T. Edes, Washington, D. C.

4. "The Induction of Premature Labor in Bright's Disease," by James Tyson, Philadelphia.

5. "The Treatment of Epilepsy," by Charles F. Folsom, Boston.

6. "Alkaloidal Medication per Rectum, A New Method of Medication," by Elmer Lee, St. Louis.

7. "Reynaud's Disease," George M. Garland, Boston.

THIRD DAY—JUNE 27.

1. "The Etiology and Pathology of Typhoid Fever," by Victor C. Vaughan, Ann Arbor, Mich.

Discussion by Henry P. Walcott, Cambridge; William Osler, Baltimore.

2. "The Physiological Action of the Typhoid Fever Poison," by N. S. Davis, Jr., Chicago.

3. "Toxic Agents in the Blood as a Cause of Diseases of the Nervous System," by M. R. Crain, Rutland, Vt.

4. "Some Thoughts on the Etiology, Pathology, and Therapeutics of Phthisis Pulmonalis," by W. L. Schenck, Kansas City.

5. "Food in the Treatment of Consumption," by Solomon Solis-Cohen, Philadelphia.

6. "Trophopathy in Fatty and Fibroid Degenerations, with Presentation of Cases of Cure."

7. "Heat as a factor in Disease," by John H. Hollister, Chicago.

FOURTH DAY—JUNE 28.

1. "The Prophylaxis of Tuberculosis," by James C. Wilson, Philadelphia.

2. "Signs in Disease," by H. M. Brown, Hillsboro', Ohio.

3. "Ulcerative Endocarditis," by J. G. Truax, New York City.

4. "Myalgia," by Gustavus Eliot, New Haven, Conn.

5. "Veratrum Viride in the Treatment of Disease," by Thomas Legaré, Charleston, S. C.

6. "Stomach Rest and Cleanliness," by Mary E. Baldwin, Newport.

Secretary—A. B. Carpenter, M.D., Cleveland.

1. "Note on the Use of Boric Acid in Gynæcic Practice," by W. W. Potter, M.D., Buffalo.

2. "Bimanual Palpation as a Means of Diagnosis in Diseases of the Female Pelvic Organs," by Paul F. Mundè, New York City.

3. "Series of Five Hundred Confinements in a Maternity," by Joseph Price, Philadelphia, Pa.

4. "Observations on Abdominal Section, based on Two Hundred and Fifty Cases," by James B. Hunter, New York City.

5. "A New Procedure of Colpoperineoplasty by Glissement," by A. Doleris, Paris, France.

6. "Stricture of the Urethra in Women," by Ely Van de Warker, Syracuse, N. Y.

7. "The Inversion of the Uterus; Reduction by a New Method; Exhibition of Instruments," by Henry O. Marcy, Boston, Mass.

8. "Observations on Abdominal Surgery, with Report of One Hundred Consecutive Cases Done in the Past Year," by W. Gill Wylie, New York City.

9. "Concealed Pregnancy, Its Relation to Abdominal Surgery," by A. Vander Veer, Albany, N. Y.

10. "The Routine Management of Cases of Acute Intestinal Obstruction," by J. Greig Smith, Bristol, England.

11. "The Medals of Benjamin Rush, Obstetrician," by Horatio R. Storer, Newport, R. I.

12. "The Field and Limitations of Supravaginal Hysterectomy, and Methods of Operating," by L. S. McMurtry, Danville, Ky.

13. "Casuistry in Obstetrics," by Theophilus Parvin, Philadelphia, Pa.

14. "Fœtal Pathology," by W. H. Taylor, Cincinnati, Ohio.

15. "Tetanus following Ovariectomy," by Joseph Tabor Johnson, Washington, D. C.

16. Prof. J. Veit, Berlin, Germany. (Subject not given.)

17. "The Obstetrician as a Counselor," by Thomas Opie, Baltimore, Md.

18. "Injuries to the Bladder during Laparotomy," by A. Reeves Jackson, Chicago, Ill.

19. "Craniotomy and its Indications," by Joseph Hoffman, Philadelphia, Pa.

20. "Glandular Endometritis, Illustrated with Microscopic Projection," by Samuel N. Nelson, Boston, Mass.

21. "Electrical Treatment of Salpingitis, with Observations," A. Apostoli, Paris, France.

22. "Pelvic Abscess in the Female," by Wm. H. Parrish, Philadelphia, Pa.

23. "The Recognition and Treatment of Lacerations of the Cervix by the Obstetrician," by Henry C. Coe, New York City.

24. DeLaskie Miller, Chicago, Ill. (Subject not given.)

25. Prof. Gusserow, Berlin, Germany. (Subject not given.)

Section of Obstetrics and Diseases of Women.

Chairman—W. H. Wathen, M.D., Louisville.

26. "Reasons for Drainage in Ovariectomy," by Hampton E. Hill, Saco, Me.

27. "When and What Kind of Obstetrical Forceps Should be Used," by Wm. S. Stewart, Philadelphia, Pa.

28. "Chronic Cystitis in the Female," by Augustus P. Clarke, —, Mass.

29. "Results of Removal of Uterine Appendages After One or More Years," by S. C. Gordon, Portland, Me.

30. "The Indications for, and Limits of, the Operation for the Removal of the Uterine Appendages," by E. E. Montgomery, Philadelphia, Pa.

31. "Observations in Connection with S. Weir Mitchell's Mode of Producing Fat and Blood," by W. H. Bond, St. Louis, Mo.

32. "Peritoneal Effusions," by Wm. H. Meyers, Ft. Wayne, Ind.

33. "The Rectification of Malpositions of the Head by Rotation with the Forceps," by Edward J. Ill, Newark, N. J.

34. "Pregnancy in the Retroverted Uterus, with Cases," by James R. Chadwick, Boston, Mass.

35. "The Therapeutic Value of Electricity in Gynecology," by L. S. Fox, Lowell, Mass.

36. "Alexander's Operation, with a New Method of Securing the Round Ligaments," by A. B. Carpenter, Cleveland, Ohio.

37. "The Use of Glycoboron in Gynecology," by Wm. Thornton Parker, Providence, R. I.

38. Bache McE. Emmet, New York City. (Subject not given.)

39. "Emmet's Buttonhole Operation," by Virgil O. Hardow, Atlanta, Ga.

40. "On the Treatment of Cancer of the Uterus," by Thomas Moore Madden, Dublin, Ireland.

41. W. E. B. Davis, Birmingham, Ala. (Subject not given.)

42. "A New Two-Ways Catheter for Uterine Irrigation," by A. Cordes, Geneva, Switzerland.

43. "The Application of Forceps to Transverse and Oblique Positions of the Head; Description of a New Forceps," by Henry D. Fry, Washington, D. C.

44. "The Galvanic Current in Gynecology," by A. Laphorn Smith, Montreal, Canada.

45. "Tubal Pregnancy; Delivery at Six Months per Vias Naturales; Recovery," by Wm. M. Fineley, Altoona, Pa.

46. Thomas E. McArdle, Washington, D. C. (Subject not given.)

47. George R. Shepherd, Hartford, Conn. (Subject not given.)

48. W. B. Carson, St. Louis, Mo. (Subject not given.)

Section on Surgery and Anatomy.

Chairman—N. P. Dandridge, M.D., Cincinnati.

Secretary—W. O. Roberts, M.D., Louisville.

TUESDAY, JUNE 25—FIRST DAY.

1. "On the Surgery of the Lateral Ventricles of the Brain," by W. W. Keen, Philadelphia.

Discussion, J. Collins Warren, Boston.

2. "Concussion of the Spine in its Medico-Legal Aspect," by H. H. Smith, Philadelphia.

Discussion by Herbert Judd, Galesburg; B. A. Watson, Jersey City; Edmund Andrews, Chicago.

3. "Surgery of Peripheral Nerves," by Maurice Richardson, Boston.

4. "Pathology and Treatment of Chronic Sciatica," by J. G. Carpenter, Stanford, Ky.

5. "Suspension and Extension in the Treatment of Chronic Sciatica," by C. C. Hunt, Dixon, Ill.

6. "Arthroctomy of Knee Joint," by E. H. Bradford, Boston.

WEDNESDAY—SECOND DAY.

1. "The Treatment of Stone in the Urinary Bladder," by W. T. Briggs, Nashville.

2. "Litholapaxy," by A. T. Cabot, Boston.

3. "Litholapaxy in Children," by Dudley Allen, Cleveland.

Discussion—"Choice of Operation for Stone," J. W. S. Gowley, New York; C. T. Gardner, Providence.

4. "Management and Treatment of Large Hernia," by J. Collins Warren, Boston.

5. "Open Wound Treatment of Hernia," by H. O. Marcy, Boston.

6. "Properitoneal Hernia," by Thomas W. Dulles, Philadelphia.

7. "Epicystic Surgical Fistula for Relief of Vesical Catarrh," by J. D. S. Davis, Birmingham, Ala.

THURSDAY—THIRD DAY.

1. "Some Further Considerations and Statistics of Abdominal Sections for Traumatism," by Thos. S. K. Morton, Philadelphia.

2. "Pelvic Surgery by Abdominal Section, its Past, Present and Future," by Jos. W. Price, Philadelphia.

3. "Peritonitis," by J. M. Baldy, Philadelphia.

4. "Drainage in Abdominal Surgery," by Charles B. Penrose, Philadelphia.

5. "A Plea for Early Abdominal Work," by M. Price, Philadelphia.

6. Title not received, by L. S. McMurtry.

7. "Chylous Cyst of Mesentery, with Report of a Case," by N. B. Carson, St. Louis.

8. "The Use, 25 Years Ago, of Polarity, Locating the whereabouts of a Lead Bullet in the Body of a Brave Soldier," by Addinell Hewson, Philadelphia.

9. "Fistula in Ano," by J. M. Matthews, Louisville.

10. "Wiring the Patella in Old Ununited Fracture," by W. C. Will, Danbury.

11. "The Healing of Aseptic Bone Cavities by Implantation of Antiseptic Decalcified Bone," by N. Senn, Milwaukee.

12. "Electrolysis in the Treatment of Stricture of the Rectum," by Robert Newman, New York.

13. "A New Rib Cutter, and a Case of Resection of Ribs for Drainage of a Pulmonary Cavity," by Charles Denison, Denver.

14. "The Absorption of Dead Bone," J. B. Hopkins, Philadelphia.

Section on State Medicine.

Chairman—J. Berrien Lindsley, M.D., Nashville, Tenn.

Secretary—S. T. Armstrong, M.D., U. S. Marine Hospital Service, New York, N. Y.

TUESDAY—JUNE 25, 2 P.M.

Section called to order. Announcement of titles of volunteer papers to be read Friday, June 28.

"The American Medical Association and its Relations to the Public Health," by N. S. Davis, Chicago, Ill.

"International Comity in State Medicine," by John B. Hamilton, Washington, D. C.

"Volunteer Sanitary Organizations as an Aid to Public Boards of Health," by H. R. Storer, Newport, R. I.

"The Importance and Essential Needs of Local Boards of Health," by W. C. Rives, New York, N. Y.

"Modern Sanitary Conditions," by Geo. E. Waring, Jr., Esq., Newport, R. I.

"Rural Sanitation," by Thos. M. Flandrau, Rome, N. Y.

"Report of the Committee on Uniform Medical Legislation in the United States," by Perry H. Millard, Chairman.

"Medical Legislation in the United States," by Perry H. Millard, St. Paul, Minn.

WEDNESDAY—JUNE 26.

Called to order: reading of minutes of preceding meeting.

Annual Address of the Chairman, by J. Berrien Lindsley, Nashville, Tenn.

1. "Quarantine of the Future," by W. C. Van Bibber, Baltimore, Md.

Discussion opened by J. H. VanDeeman, Nashville, Tenn.

2. "Etiological Relations of Water to Disease," by F. L. Sim, Memphis, Tenn.

3. "The Purification of Drinking Water for Cities," by Charles V. Chopin, Providence, R. I.

4. "Bacteriological Examination of Several Native Mineral Waters in the Bottled State," by George Minges, Dubuque, Ia.

5. "Report of the Standing Committee on

Meteorological Conditions," by N. S. Davis, Chairman.

6. "The Climatic Causation of Consumption," by Henry B. Baker, Lansing, Mich.

7. "Climatological Characteristics of Salt Lake City," by F. S. Bascom, Utah.

8. "Ranch Life in Texas for Consumptives," by J. R. Briggs, Dallas, Tex.

9. "Biometry, or the Measure of Life as Applied to Life Assurance," by Charles Everett Warren, Boston, Mass.

THURSDAY—JUNE 27.

Called to order: reading of minutes of preceding meeting.

Election of officers for the Section for the ensuing year.

1. "The Necessity for Sanitary Supervision of Schools," by George H. Rohé, Baltimore, Md.

Discussion opened by W. L. Schenek, Osage City, Kas.

2. "Do the Sanitary Interests of the United States Demand the Annexation of Cuba?" by Benjamin Lee, Philadelphia, Pa.

3. "Personal Disinfection in Scarletina," by L. D. Waterman, Indianapolis, Ind.

4. "Report of the Committee on Fœticide," by I. M. Quimby, Chairman.

5. "The Causation and Restriction of Infantile Mortality," by V. C. Vaughan, Ann Arbor, Mich.

6. "Is it Detrimental to the Health of Passengers on Shipboard to Convey to Port the Bodies of Persons who Die at Sea of Non-contagious Disease?" by I. N. Quimby, Jersey City, N. J.

7. "Disposal of House Refuse," by Alfred L. Carroll, New York, N. Y.

8. "The Benefits of Sanitation Applied to Obstetrical and Gynecological Surgery," by T. A. Ashby, Baltimore, Md.

9. "Stamina," by A. N. Bell, Brooklyn, N. Y.

FRIDAY—JUNE 28.

Called to order: reading of minutes of preceding meeting.

Reading of volunteer papers.

Section on Ophthalmology.

Chairman—George E. Frothingham, Ann Arbor, Mich.

Secretary—G. C. Savage, Nashville, Tenn.

FIRST DAY—JUNE 25.

1. Address by the Chairman, Geo. E. Frothingham, Ann Arbor, Mich., "The Need of Discussing Ophthalmic Subjects."

2. "The Prevention of Pain and the Improvement of the Stump following Evisceration of the Eye," by A. E. Prince, Jacksonville, Ill.

3. "What can we do to Induce the Government to Make the Census of 1890 Contribute Efficiently to a Clear Conception of the Causes of

Blindness in the United States," by Robert Tilley, Chicago.

4. "Advances in Our Knowledge of some Cerebral Ocular and Intra-Ocular Lesions which Facilitate the Diagnosis and Treatment of Important Diseases," by H. W. Williams, Boston.

5. "Ocular Symptoms of Diseases and Injuries of the Spinal Cord," by J. F. Fulton, St. Paul, Minn.

6. "Impaired Vision as a Result of Sunstroke," by A. R. Baker, Cleveland, O.

7. "Some Cases of Inflammation and Atrophy of the Optic Nerve, with Special Reference to Etiology and Prognosis," by J. L. Thompson, Indianapolis, Ind.

8. "The Non-Surgical Treatment of Strabismus Convergens," by E. J. Gardiner, Chicago.

9. "Tobacco Amaurosis," by Leartus Connor, Detroit.

10. "Paralysis of Accommodation from Concussion of Eyeball; Treatment," by Eugene Smith, Detroit, Mich.

SECOND DAY—JUNE 26.

1. "A Case of Sympathetic Irido-Choroiditis, Induced by Sarcoma of the Choroid, and Appearing Five Days After the Enucleation of the Sarcomatous Eye," Interesting Clinical History and Final Recovery," by F. C. Hotz, Chicago.

2. "Tumors of the Optic Nerve," by S. C. Ayres, Cincinnati.

3. "The Needless and Annoying Restraints after Eye Operations," by J. J. Chisolm, Baltimore.

4. "The Advantage of a Preliminary Iridectomy in Cataract Extraction," by LeRoy Dibble, Kansas City.

5. "Keratitis Trachomatosis," by J. H. Thompson, Kansas City.

6. "Gradation of Lenses," by Dudley S. Reynolds, Louisville.

7. "Glaucoma Fulminans, after Operations," by P. D. Keyser, Philadelphia.

THIRD DAY—JUNE 27.

1. "Traumatism of the Eye," by C. M. Hobby, Iowa City.

2. "Ametropia in Schools," by F. B. Tiffany, Kansas City.

3. "The Ametropiæ and Their Relation to Insufficiencies of the Recti Muscles," by J. W. Wright, Columbus, O.

4. "Embolus of the Inferior Branch of the Retinal Artery Visible with the Ophthalmoscope, Disappearance of Embolus and Recovery of the Greater Part of Visual Field under Massage and Nitrite of Amyl," by H. Gifford, Omaha, Neb.

5. "Intra-Ocular Diseases Caused by Chronic Rhinitis," by J. G. Sinclair, Nashville, Tenn.

Other papers have been promised, but as yet the subjects have not been announced. All who expect to read papers are requested to send the

title at once, either to the Chairman or Secretary of the Section, otherwise they can not be placed upon the programme of proceedings, which will be published soon by the Committee of Arrangements.

Section on Diseases of Children.

Chairman—J. A. Larrabee, M.D., Louisville.

Secretary—C. J. Jennings, M.D., Detroit.

FIRST DAY, JUNE 25.

1. "The Management of Infants during the First Year," by T. B. Greenley, West Point, Ky.

2. "Cow's Milk for Infant Food," by E. F. Brush, Mt. Vernon, N. Y.

3. "Summer Diarrhoea and Dysentery" by N. Gulmann, St. Louis, Mo.

4. "Intestinal Diseases of Children during Hot Weather," by Peter Hooper, Philadelphia, Pa.

5. "Cholera Infantum, its Etiology and Treatment," by Steele Bailey, Stanford, Ky.

SECOND DAY, JUNE 26.

1. "Heart Failure in Diphtheria," by Geo. Wheeler Jones, Danville, O.

2. "Intubation of the Larynx, with Reports of Cases," by F. E. Waxham, Chicago, Ill.

3. "Scarlatina" by C. R. Earley, Ridgeway, Pa.

4. "Pathology and Treatment of Certain Complications of Scarlet Fever," by Talbot Jones, St. Paul, Minn.

5. "The Value of Hydrogen Dioxide in the Treatment of Diseases of Children," by Marcus P. Hatfield, Chicago, Ill.

6. "A Rule with Penalty in Public Schools," by David I. Booth, Sparta, Ill.

7. "Poliomyelitis Anterior Acuta," by S. P. Deahofe, Potsdam, O.

THIRD DAY, JUNE 27.

1. "Serious Abdominal Injuries of Children," Resulting from Traumatism Seemingly Trivial," by I. N. Love, St. Louis, Mo.

2. "Visceral Neuralgias in Children," by J. C. Wilson, Philadelphia, Pa.

3. "Atropine in Eneuresis," by Wm. Perry Watson, Jersey City, N. J.

4. "Adherent Præputium Clitoridis as a Cause of Chorea, with Report of a Case," by C. Henri Leonard, Detroit, Mich.

5. "A Further Study of the Cardiac Relations of Chorea," by Wm. Osler, Philadelphia, Pa.

6. "The Treatment of Heart Disease in Children," by J. A. Robison, Chicago, Ill.

FOURTH DAY, JUNE 28.

1. "The Physical Education of Children," by A. H. P. Leuf, Philadelphia, Pa.

2. "The Treatment of Tubercular Bone Lesions before the Joint is Invaded," by V. P. Gibney, New York.

3. "Notes on Surgical Diseases of Children," by Edwin Brock, St. Louis, Mo.

4. "Spine Bifida," by Norman Teal, Kendallville, Ky.

5. "Trismus Nascentiam," by A. V. Williams, Frankfort, Ky.

Papers have been promised from Jerome Walker, Brooklyn, N. Y., W. B. Atkinson, Philadelphia, Pa.

Section of Dental and Oral Surgery.

Chairman—F. H. Rehwinkel, Chillicothe, O.

Secretary—E. S. Talbot, Chicago.

TUESDAY, JUNE 25.

Address by T. H. Rehwinkel, Chairman.

1. "Facial Neuralgia Associated with Pregnancy," by W. W. Allport.

WEDNESDAY, JUNE, 26.

1. "Diseases of the Antrum," by Wm. Carr.

2. "Fissures," by R. R. Andrews.

THURSDAY, JUNE, 27.

1. "Care of the Teeth of Pregnant Women," by John Marshall.

2. "Statistics of Irregularities of the Teeth of Normal Individuals, the Idiotic, Deaf and Dumb, Blind and Insane," by Eugene S. Talbot.

Numerous other papers have been promised.

Section of Medical Jurisprudence.

Chairman—J. G. Kiernan, M.D., Chicago.

Secretary—S. C. Evans, M.D., Baltimore.

FIRST DAY, JUNE 25.

1. "History of Medical Jurisprudence," by Judge Amos G. Hull, New York.

SECOND DAY, JUNE 26.

1. "Tests of Insanity," by H. N. Moyer, Chicago.

2. "Monomania," by Clark Bell, New York.

3. "Legal Decisions on Insanity"—Chairman's Address, by Jas. G. Kiernan, Chicago.

4. "Massachusetts Insanity Laws," by T. W. Fisher, Boston.

5. "Illinois Insanity Laws," by Harriet C. B. Alexander, Chicago.

THIRD DAY, JUNE 27.

1. "Legal Aspects of Inebriety," by T. L. Wright, Bellefontaine, Ohio.

2. "Inebriate Criminals," by T. D. Crothers, Hartford, Conn.

3. "Social Aspects of Alcoholism," by E. C. Spitzka, New York.

FOURTH DAY, JUNE 28.

1. "Spinal Concussion," by S. V. Clevenger, Chicago.

Section on Dermatology and Syphilography.

Chairman—L. Duncan Bulkley, New York.

Secretary—W. T. Corlett, Cincinnati, O.

FIRST DAY, JUNE 25.

1. Address by the Chairman, "Recent Advances in the Treatment of Diseases of the Skin."

2. Discussion on "The Treatment of Tinea Tonsurans," opened by W. T. Corlett, and Henry Fleischner."

3. "The Prophylaxis of Ringworm of the Scalp," by Fred. J. Levisneur, New York.

4. "Some notes on Hoang-nan," by J. V. Shoemaker, Philadelphia.

5. Analysis of 250 Cases of eczem-seborrhoicum," by George T. Elliot, New York.

6. "Prurigo hiemalis, or Winter Itch," by W. T. Corlett, Cleveland, Ohio.

7. "Dermatitis Exfoliativa," by E. N. Brush, Philadelphia.

SECOND DAY, JUNE 26.

1. "Discussion on "The Indications for and Duration of the Treatment of Syphilis, opened by L. Duncan Bulkley, or another.

2. "The Positive Diagnosis of Syphilis," by Ephraim Cutter, of New York.

3. "On Pruritus," by Henry Fleischner, New Haven, Conn.

4. "A Case of Painful Subcutaneous Neuroma (Neuro-fibroma)," by J. Abbott Cantrell, Philadelphia.

5. "Relations between Acne and Diseases of the Nasal Cavity," by Carl Seiler, Philadelphia.

6. "Answers to questions Deposited in Question Box Relating to Dermatology or Syphilography.

THIRD DAY, JUNE 27.

1. "A Case of Kraurosis Vulvæ," by A. H. Ohman-Dumesnil, of St. Louis, Mo.

2. "Use and Abuse of Soap and Water," by Merrill Ricketts, Cincinnati, O.

3. "The Treatment of Felon without Incision," by J. S. Miller, York, Penn.

4. "The Early Recognition and Treatment of Epithelioma," by L. Duncan, Bulkley, New York.

Section on Laryngology and Otology.

Chairman—W. H. Daly, M.D., Pittsburg.

Secretary—E. F. Ingals, M.D., Chicago.

1. "The Third Tonsil; Its Important Relation to Naso-Pharyngeal and Naso-Aural Catarrh," by Joseph A. White.

2. "Adenoid Hypertrophy of Vault of Pharynx—Pathology and Treatment," by Bryson Delevan.

3. "The Benefits to be Derived from the Radical Operation for the Relief of Nasal Stenosis," by Holbrook Curtis.

4. "Obstruction of the Nares Causing Nervousness," by Hal Foster.

5. "Empyema of the Frontal Sinus," by Geo. A. Richards.

6. "Clinical Notes," by J. D. Arnold.

7. Short Address, by Lennox Brown.

8. "An Analysis of One Hundred Cases of Cough Cured by Adoption of Operative Procedure in the Treatment of Existing Morbid State of Nasal Cavities," by J. E. Schadle.

9. "Clinical Observations in a Number of Cases," by Carl Seiler.

10. "A New Gag, and Some Conservative Observations about Intubation," by Chas. Denison.

11. "Internal Ear Deafness, Illustrated with Cases," by J. G. Carpenter.

12. "On the Value of Antiseptic Treatment of and Protection of Membrana Tympani in Perforation," by Laurence Turnbull.

13. "Report of Cases of Dangerous Middle-Ear and Mastoid Inflammations, which followed Treatment of Naso-Pharynx," by J. L. Thompson.

14. "Observations upon the Effect of Nasal Obstruction on the Middle-Ear," by F. Whitehall Hinkel.

15. "The Indications for the Excision of the Drumhead of the Ear," by Samuel Sexton.

16. "The Possible Danger to Middle-Ear as a Result of Nasal Atomization," by C. W. Richardson.

17. "Nasal Polypi in Children, and Double Uvula," by John McKenzie.

18. "The Relation of Tonsillitis to Rheumatism," by S. J. Radcliff.

19. "Morbid Perforations of Nasal Septum," by A. B. Thrasher.

20. "Perforating Ulcer of the Septum Narium," by Max Thorner.

21. "Chronic Obstipation of the Nares; Hernia," by W. Freudenthal.

22. "Affections of the Throat as Evidence of Diseases in other Localities," by Jas. E. Logan.

23. "Epilepsy Caused by Intra-Nasal Disease," by F. S. Crossfield.

24. "Effects of Natural Gas upon Upper Air Passages," by D. W. Rankin.

25. "The Influence of Disorders of Digestion on Catarrh of Air Passages," by A. M. Duncan.

26. "The Treatment of Acute Naso-Pharyngeal Catarrh," by S. S. Bishop.

27. "Congenital Occlusion of Naso-Pharynx, with Report of Two Cases," by F. O. Stockton.

28. "On the Use of Menthol in Upper Air Passages," by Frank H. Potter.

29. "Menthol in Laryngeal Phthisis," by C. H. Knight.

30. "Sclerosis of Mastoid Cells," by J. B. Lip-pincott.

31. "Malignant Tumors of Larynx," by H. A. Johnson.

32. "Laryngeal Gummata," by Robert Levy.

33. Glandular Hypertrophies at the Base of Tongue," by John O. Roe.

34. "A Case of Acute Rheumatic Laryngitis of Gonorrhœal Origin," by Wm. K. Simpson.

35. "Abscess of the Antrum of Highmore; Its Diagnosis and Treatment," by J. H. Bryan.

36. Nasal Bacteria," by Jonathan Wright.

37. "Treatment of Cystic Goitre," by E. Fletcher Ingals.

Papers are also expected from the following, but the titles have not been received:

Drs. E. L. Shurly, Louis Jurist, Wm. Porter, J. Mount Bleyer, Chas. E. Sajous, Thos. Legaré, Chas. Stover Allen, J. Solis-Cohen, C. E. Bean, F. I. Knight, W. E. Casselberry, E. R. Lewis.

Others desirous of reading papers in any of the Sections should at once send the title of their paper to Dr. H. R. Storer, Newport R. I., and to the Chairman of the Section in which they wish to read it.

HOTELS.

In Newport.—Ocean House, Bellevue Ave., \$4 per day, (special rate); The Aquidneck, Pelham St., \$3 per day, (special rate); Brayton House, Pelham St.; Cliff Ave. Hotel, on the Cliffs, \$2.50-\$3; Perry House, Washington Square; Central House, 14 Bath Road.

In Jamestown.—(Eighteen minutes by steam ferry from Newport. Boat making trips about every hour, each way.) Bay View House, C. T. Knowles, \$2 per day; Gardner House, Gardner & Littlefield, about \$2 per day; Prospect House, C. E. Weeden, \$2 per day; Champlins', Wm. A. Champlin, \$1.50 per day.

PRIVATE BOARDING HOUSES. \$1.25 TO \$5 PER DAY.

Ailman, Miss R. L., 62 Spring Street; Allen, Samuel, 79 Washington; Bailey, Mrs. John C., 84 John; Barker, Mrs. James P., 15 Clinton Ave.; Barker, Mrs. Jos. P., 304 Broadway; Bateman's, Brenton's Point; Bateman, Mrs. Joseph, Kay St. House; Bliss, Mrs. W. H., 6 West Marlboro; Bosworth, Mrs. P. S., 35 Spring; Bryer, Mrs. Peleg, 12 Park; Burbridge, Mrs. J., cor. Corné and Mill; Clark, Mrs. A. M., 42 John; Dame, Miss E. M., 78 Broadway; Dawley, Mrs. S. E., 24 John; Eldredge, Mrs. A. E., 36 Washington; Ellis, Mrs. J. J., 72 John St.; Essex, J. J., 252 Thames; Finch, Mrs. J. B., 27 High; Gifford, Miss M. A., 25 Farewell; Hall, Mrs. E. A., 137 Broadway; Henderson, Mrs. H. R., 1 Wanton Ave.; Kreis, Mrs. H. K., 101 Prospect Hill St.; Nason, Mrs. Geo., 28 John; Peckham, E. Truman, 7 Arnold Ave.; Peters, Mrs. Anton, 34 Broadway; Richardson, J. D., Jr., 13 Summer; Robinson, Mrs. M. J., 14 Catherine; Rudolph, Mrs., 106 Church; Russell, James M., 49 Washington; Seabury, Mrs. T. M., 16 Mann; Sisson,

Mrs. A. P. 81 Touro; Snow, Mrs. A. C., 8 Pelham; Swasey, Mrs. J. H., 74 Spring; Thurston, Mrs. Harriet, 92 Division; Townsend, H. A., 15 Rhode Island Ave.; Weaver, Mrs. Jacob, 216 Thomas St.; White, Mrs. Annie, 63 Broadway; Wilbour, Misses M. A. and H. L., 50 Washington; Wilbur, Mrs. A. A., 131 Church; Williamson, Mrs. E. F., 33 Ann.

PRIVATE LODGINGS (WITHOUT MEALS). FIFTY CENTS TO \$1 PER DAY.

Bishop, Mrs. A. H., 16 Chestnut St.; Brown, John, 18 Newport Ave.; Bullock, Mrs. Joseph H., 87 John; Congdon, Mrs. C. T., 100 Spring; Finlay, Mrs. A. M., 80 John; Goddard, Mrs. L., 38 John; Greene, A. M., 54 John; Hammond, Mrs. C. E., 12 Appleby Ave.; Kelley, Mrs. G. H., 16 Bay View Ave.; Lawton, H. R., 66 John; Leddy, Mrs. M. S., 38 Franklin; Lee, Mrs. Wm. H., Corné St.; Martin, Miss, L. D., corner John and Martin Sts.; Milne, Mrs. W. O., 8 Everett; Mumford, Miss H. E., 8 N. Baptist St.; Ordway, Mrs., 84 Division; Pitman, Mrs., corner Martin and Prospect Hill Sts.; Simmons, Mrs. W. B., 9 Meeting St.; Slocum, Mrs. Geo. S., 35 Green; Stanton, Mrs. R. H., 42 Washington Square; Stewart, Mrs. J. C., 80 Division; Titus, Mrs. I. W., 14 Everett; Weeden, Mrs. C. D., 2 Allen Ct.

Notice to Exhibitors.

For the accommodation of exhibitors the local committee of arrangements has contracted for the erection of a temporary building as the most feasible and advantageous provision which can be made for the display. This building is to be put up on a lot the use of which is gratuitously given for the purpose by John G. Weaver, Esq. The lot adjoins the lot on which stands the Music Hall, in which the general sessions of the Association are to be held, and it is also contiguous to the Ocean House, the largest hotel. The contract provides for a one story, sloping roof structure, twelve feet high at the eaves, built of planed, matched, grooved and tongued boards, the studing and floor planed, with windows eight feet apart from centre to centre, the whole wind and rain proof. This building is to be made of a size to accommodate such accepted exhibitors as have made application for space previous to May 30. By the return of the material to the builder after use the net cost of the building is to be at the rate of \$19.00 for each 100 square feet of floor space. Out of this floor space must be taken room for aisles, and there will be some few incidental small expenses, as for night watchman, safeguards against fire, etc., so that the cost to exhibitors will be at a rate somewhat exceeding \$20.00 for each 100 square feet of floor space occupied. The committee will try to keep the sum total of expense as low as possible for satisfactory accommo-

dations, and to divide the whole cost equitably among the exhibitors. The building is to be so situated in a large lot as to have air and light on all four sides; there is to be an entrance at each end, and there can be no poor location in it. In the assigning of space regard will be had as far as possible to priority of applications, to expressed preferences and varied needs of exhibitors, and to economy of space. The committee consider themselves as acting as agents of the exhibitors for the mutual convenience of the whole, and they can assume no responsibility for the safety of exhibits. If insurance of any kind on exhibits be desired, it should be procured by the owners.

C. A. BRADSETT,

E. P. ROBINSON,

Sub-Com. on Exhibits, Am. Med. Association.

Railroad Arrangements.

The Local Committee of Arrangements and the Committee of Transportation at Newport hope to be able to announce definitely in the next issue of THE JOURNAL, that arrangements have been perfected whereby members and those who accompany them to the forthcoming meeting will be able to purchase their tickets at a rate not to exceed one fare and a third for the round trip. It is expected that the various railroads will grant this courtesy, and whether the tickets will be sold on the certificate plan for the entire distance, or whether round trip tickets will be sold at the starting-point to the place of meeting, are subjects that are being actively discussed by the various Traffic Associations at the time we go to press for this issue of THE JOURNAL.

Dr. Liston H. Montgomery, 189 Randolph St., Chicago, has been appointed a member of the Transportation Committee.

SOCIETY PROCEEDINGS.

The American Surgical Association.

Annual Meeting, held in the New Army Medical Museum, Washington, May 14, 15, and 16, 1889.

(Continued from page 751.)

DR. CLAUDIUS H. MASTIN, of Mobile, read a paper on

HERNIA—A COMPARISON OF THE VARIOUS METHODS ADOPTED FOR ITS RADICAL CURE,

inviting discussion of their respective merits.

Reference was first made to the great frequency of this condition. The Census Reports of 1880 show that of the total number of deaths, 1 in

every 600 was due to hernia, and out of 1,236 deaths from hernia, 141 occurred in children under one year of age. A historical review of the various operations proposed for the radical cure of hernia from the earliest times down to the present, was then given.

The paper proper concluded with the following remarks :

"The ligature of the sac at its neck, with suture of the pillars of canal and ring, may be considered an established surgical procedure ; still being a comparatively new operation, a discussion of its merits will be of practical value in leading to further improvements, and with them permanent success of the operation. With the present lights before us, the most important point in the operation appears to be closing the neck of the sac as high up as possible, so as to effectually seal up the opening into the abdominal cavity. To do this completely it is necessary that the sac should be carefully separated from the adjacent tissues, and this is not always an easy matter, since oftentimes the true sac is obliterated and a new sac formed in the fibrous tissue, with the vascular and nervous distribution blended in such a manner as to render the dissection most difficult, if not impossible. In such a case MacEwen's operation could not be performed, and it would be impossible to twist the sac as recommended by Mr. Ball. This objection does not obtain in crural and umbilical herniæ, still since inguinal is the most frequent of the herniæ, it is of importance in them. In congenital cases, it is much easier to separate the sac and hence more possible to do a complete operation ; but since in young children, the truss properly applied and long continued, until the abdominal parietes have been so developed as to increase the obliquity of the canal, will in most instances produce a permanent cure, all operative procedures in children should be considered unwarrantable. In those cases, however, where an imprisoned testicle complicates the condition, the operation is unquestionably proper and the removal of the testicle justifiable, and for the simple reason that the presence of the gland in the canal predisposes to the descent of the hernia.

Since the main point in the success of the operation appears to have been the proper disposal of the sac it is not astonishing that operators who have given it their attention should have adopted diverse methods, each one of which has the same end in view. Whilst Ball twists it, MacEwen tucks it up ; Hardee insists upon the importance of inclosing the transversalis fascia with the sac in the ligature ; J. D. Bryant splits the pillars on either side and weaves in the sac ; Annandale opens the canal, ties the sac, cuts it away and stitches the opening ; on the other hand Stokes opens the sac and then stitching the neck, the canal and the pillars together, he leaves the sac in position ; Banks opens the sac, ligates the neck,

cuts away the fundus and sutures the pillars ; Alexander, of Liverpool, opens the canal, ligatures the sac flush with the peritoneum internally, then divides the neck below the ligature, leaving the sac in the canal without suturing the ring ; MacCormac advocates this plan, while Buckhanan cuts down to the sac, slits it up longitudinally on each side of the cord, divides the front part horizontally, rolls up the upper part, with which he plugs the internal ring and turns down the lower half to form the tunica vaginalis.

From a comparison of all the methods, it is apparent that no fixed rule of procedure is established, and although the radical operation is a marked improvement in the treatment of hernia, whether free or strangulated, we cannot consider it perfected, because the methods hitherto resorted to have not proved radical in results. The operation is ideally correct, but the question arises, whether, with the uncertainty of success, the risk justifies the operation, especially so if the circumstances of the individual are such that he can content himself with the use of a properly adjusted truss.

DR. M. H. RICHARDSON, of Boston : My experience with the operation for the radical cure of hernia has been small. Sufficient time has not elapsed to permit us to say what the ultimate result will be. My preference has been for the invagination of the sac as proposed by MacEwen. I do not advocate the operation in trivial cases of hernia. Here I believe that the application of a well-fitting truss is the most conservative and better plan.

DR. D. HAYES AGNEW, of Phila. : We have to yet speak with a good deal of reserve as to which is the most successful operation. Sufficient time has not elapsed to enable us to speak positively upon this subject. The operation which seems to me most applicable is that in which the sac is ligated, pushed into the internal ring, stitched there, and transverse sutures passed across the canal. I think that the omentum will constitute an important element in the radical cure of hernia. I believe that in all cases of strangulated hernia we are justified in attempting the radical cure. The same is true in those cases of hernia which cannot be controlled by a truss leaving the patient exposed to great risk.

DR. W. W. DAWSON, of Cincinnati : In cases where life is not in jeopardy we should approach the operation with a great deal of consideration. I have seen very different results from the same operation performed with equal care in cases apparently similar. Where life is in danger, duty impels us to operate, but where the question is one of æsthetics or abridged usefulness, the operation should be approached cautiously.

DR. L. McLANE TIFFANY, of Baltimore : My operation for radical cure in cases of strangulated hernia are more successful than formerly, and I

attribute this to the fact that I operate now in a more cleanly manner. I think that no operation for strangulated hernia is complete unless an attempt at radical cure is made. When the hernia is not strangulated, the question arises as to the kind of hernia, the inconvenience that it causes, and the circumstances of the individual. I do not believe that the operation, *per se*, is likely to be followed by much trouble. The method to be employed must be determined by the peculiarities of the case. In regard to children, I think in congenital hernia, especially where it is probable that the child will have to work for its living, that it is the duty of the surgeon to operate. Here it is not necessary to open the peritoneum. A ligature is thrown around the sac above and another lower down, and the intervening portion excised, forming a tunica vaginalis below and a peritoneal sac above.

DR. D. A. YANDELL, of Louisville: I believe that in strangulated hernia the surgeon should attempt the radical cure. This has been my practice and I have used various methods. It is difficult for any one man to decide which is the best operation, but in the course of ten years we shall be able to arrive at some opinion. At present it is simply historical and no one can say which is the best method.

DR. J. FORD THOMPSON, of Washington: So far as my experience has gone, I think there is very little difference in the operations. The main point is to get rid of the sac. I think that suture of the pillars is useless. The operation that I have employed is practically that of McBurney. In strangulated hernia it seems to me that there must be danger in inverting the sac as in MacEwen's operation. I have seen many cases of hernia in children, but I have never been able to adopt the view of Dr. Tiffany. As a rule, if we can keep the intestine reduced, the hernia is cured in a comparatively short time. In some cases of large hernia in children the radical operation is probably justifiable.

DR. W. W. KEEN, of Philadelphia: We doubtless all agree that in strangulated hernia no operation is complete without an attempt at radical cure. We also agree that in those cases where the hernia is not controlled by a truss and the patient is unable to labor, radical operation is advisable. The tendency at the present time is to extend the limits of the operation beyond these two classes. The presence of hernia is always attended with risk; hence the tendency at present is to operate on a larger number of cases. In children if the retentive measures after a thorough trial for a few years fail to effect a cure, I should be inclined to operate. In very large hernia, I should not be inclined to use MacEwen's method. The life of the sac is imperilled by separating it. In large hernia a certain amount of preparatory treatment is desirable to accustom the abdominal cavity to

the presence of the intestine, and thus prevent undue pressure upon the diaphragm and strain upon the sutures. In the more ordinary cases I think that the operation of McBurney is the best. I should place the operations in the following order: McBurney's, MacEwen's, and Ball's.

DR. C. H. MASTIN, of Mobile: I have little to add. The object of my paper was to elicit discussion as to the best method of operating. I have performed 34 operations for hernia, with 3 deaths. Two of these may be excluded, as the patients were *in extremis* at the time of the operation. This leaves 32 cases, with 1 death. Of this number there have been 8 radical cures. One of these cases I have watched for seventeen years. The method employed was after the sac was opened to pass a deep pin through the pillars, with an ordinary twisted suture over it, close the incision and place the leg on a double-inclined plane. Thirty-one cases have recovered with primary union. I believe that the cure is produced by the dense cicatricial tissue formed in the canal.

DR. J. R. WEIST, of Richmond, Ind.: I have operated on strangulated hernia 41 times. In 30 cases I have attempted to make a radical cure, using a variety of methods. In only 4 cases have I succeeded in keeping the hernia in. A number have remained well for six months to two years, and then the hernia has reappeared as bad as ever.

DR. M. H. RICHARDSON, of Boston, read a paper on

THE SURGICAL TREATMENT OF GANGRENOUS HERNIA.

The principal question discussed was the relative advantage of immediate excision and suture of the bowel, and the formation of an artificial anus, with subsequent closure. The views of various authorities were first quoted. The author then briefly reported the cases coming under his own observation.

Case 1.—A young woman with right femoral hernia, strangulated for one week. Bowel was found gangrenous and excised. Death from shock the next day.

Case 2.—Woman, *æt.* 65 years. Left inguinal hernia. On opening the sac the bowel was found strangulated and dark in color. The hernia was reduced, but the symptoms of obstruction continued, and five days later the sac was opened and the intestine found strangulated by a band within the ring. The bowel was drawn out, the strangulated portion excised and the ends sutured. The patient died of shock.

Case 3.—Woman, *æt.* 42 years. Had been treated by Christian Scientists for five days. There was a large umbilical hernia, with gangrenous intestine. The sac was filled with fecal matter. The constriction was found and the bowel drawn out and excised beyond the constrict-

tion and the ends united. This patient recovered perfectly and has remained well.

Case 4.—A woman with enormous umbilical hernia, with strangulation and gangrene. The faecal abscess opened by natural processes and the woman has been in perfect health since, with the exception of the artificial anus. This will be operated on next week.

In the two cases of excision the time required for the passage of the sutures was twenty minutes; the whole operation did not exceed one hour. The longer the operation the more are the chances reduced.

Reference was then made to the use of the bone plates of Senn and the catgut rings of Abbe. These devices may do more in these cases than anything else. Every case must be decided on its merits. The danger to life of resection in suitable cases is probably not greater than the danger of artificial anus with the dangers attending the subsequent closure of the same. The danger of the latter operation is especially great where the opening is near the stomach. Artificial anus is also objectionable on account of the excoriation of skin which attends it, and also the risk of giving way of the sutures.

The author concluded as follows: It seems to be the general opinion of surgeons everywhere that, under some circumstances, excision and suture are justifiable. It seems to me that the primary operation should only be done where all the conditions are favorable. It is preëminently a hospital operation. Every appliance and preparation should be ready for its most perfect performance. It is not an operation to be recommended to the general practitioner or to the unqualified operator. It depends for success more often upon rapid and skilful execution than almost any other operation.

There is no doubt that in some cases this procedure is imperative, where the part necrosed is too high up for intestinal nutrition to be maintained. The difficulty, of course, is to recognize this state of things. Even when it can be demonstrated that the jejunum is gangrenous, excision is not justifiable unless the patient's condition offers some hope, and there is a chance that the relief of the symptoms of obstruction may be followed by sufficient improvement to make a second operation unnecessary.

DR. D. HAYES AGNEW: My experience is too limited to enable me to say much upon this subject. I recall three cases of gangrenous hernia. One was a case of inguinal hernia in which I excised a portion of the bowel. The patient recovered from the immediate effects of the operation and passed out of my hands. Some months afterwards, he was advised by another surgeon to apply a compress to the external opening so as to compel nature to establish a communication between the two portions of bowel. He did so with

fatal results. The second case was one of femoral hernia which had lasted six or seven days. It was laid open and the patient recovered. As the granulations filled the opening, communication took place between the two portions of bowel. The third case was one of umbilical hernia. I opened the sac, excised 10 inches of intestine and carefully stitched the ends. The patient died of hæmorrhage at the end of two days. It occurs to me that it would be wise, in such a case, to stitch the intestine to the skin and at a subsequent period do this operation of Dr. Abbe.

DR. WILLIAM T. BRIGGS, of Nashville: Although I have seen many cases of strangulated hernia, I have seen but three instances of gangrenous intestine. In the first case I opened the abscess and the faecal contents escaped. The patient lived some time, but died of inanition. In the second case I attached the bowel to surrounding parts and made an opening into it. The patient died in twenty-four hours. The third case I left entirely to nature and the patient recovered with an artificial anus.

DR. P. S. CONNER, of Cincinnati: I have had three cases of gangrenous hernia and have seen a fourth in the practice of Dr. Dandridge. The operation of intestinal anastomosis is valuable. It can be performed rapidly, it is simple and establishes the continuity of the intestinal tract more perfectly than any other operation that has been suggested.

DR. W. F. PECK, of Davenport: From my experience, I think that great benefit in the way of prevention would result from educating the subjects of this trouble in regard to the dangers of hernia and the way of reduction.

DR. J. EWING MEARS, of Philadelphia: I have had two cases; one of umbilical hernia in which I made an artificial anus, the other of femoral hernia where I performed resection and returned the intestine to the abdomen. Both resulted fatally inside of forty-eight hours. A surgeon of Vienna has suggested that in these cases the gangrenous intestine be withdrawn from the abdomen and held in place outside by a tampon of iodoform gauze. In this way the intestine can be kept under observation and treated as seems best.

DR. W. W. KEEN, of Philadelphia: I think that the introduction of the method of intestinal anastomosis by the bone plates of Senn or the catgut ring of Abbe is a great advantage over former methods. The mortality following this method is greatly less than that following reunion of the ends of the bowel.

DR. T. A. MCGRAW, of Detroit: I have heard nothing in regard to the pathological condition of the bowel above the seat of stricture. In some cases the bowel is healthy immediately above the point of strangulation, while in others the inflammatory process extends 6 to 10 inches above the point of constriction. This must make a great

difference as regards the results of operation.

DR. A. VANDERVEER, of Albany: Eleven years ago I saw a case of gangrenous inguinal hernia, but the condition was so bad that nothing was done. The patient died a few hours later. Two years ago I saw a similar case, except that the patient was younger and the collapse not so great. I opened freely and left it to nature. The man recovered with an artificial anus.

DR. H. H. MUDD, of St. Louis: I think that gangrenous hernia is not so rare as seems to be the general impression. I can recall at least seven cases. Three of these cases occurred more than four years ago and all died. During the last four years I have operated on four cases, excising a portion of bowel, with recovery in one case.

(To be concluded.)

Philadelphia County Medical Society.

Stated Meeting, March 27, 1889.

THE PRESIDENT, S. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. W. W. KEEN read a paper on

UNCOMPLETED NEPHRECTOMY.

(See page 762.)

DR. DEFORREST WILLARD: I was unfortunately detained, and did not hear Dr. Steinbach's paper, but I understand that in his case the abdominal incision was employed. In Dr. Keen's case the lumbar incision was employed at the operation, but that at the post-mortem an attempt was made to remove the kidney by an abdominal incision in the semi-lunaris. I do not consider that this question in regard to the incision to be employed, is yet settled. As a rule, however, the anterior median method offers better opportunities for diagnosis, for examination of the other kidney, and for safe removal. In cases where a stone is suspected, or the presence of pus is probable, the lumbar incision is certainly proper, the operation may be simply a nephrotomy, and not a nephrectomy, and then we have better drainage. In simple purulent kidney, it is better to secure drainage and not remove the kidney. The results, so far as life are concerned, are better by this method. In tuberculous kidneys, the results of nephrectomy have been more satisfactory. In Bardenhauer's statistics,¹ numbering some thirty-five nephrectomies, where twenty-five were for purulent kidney of various forms, the mortality was not much higher than ordinary nephrectomy. Out of thirty-five cases he lost ten.

The choice of the incision will depend largely upon the condition of the case, and upon the

diagnosis. Many nephrectomies have been performed after the abdominal incision has been made for other purposes, as when the ureter has been cut in laparotomy. I do not know why it is any better, but Schmidt recommends that in such cases the kidney be removed by the lumbar incision. It seems to me that this would decidedly delay the operation, and would be more likely to cause contamination of the abdominal cavity. I do not think that the results are much more serious in the anterior operation than they are in the posterior.

My practical experience has been limited to two cases, one for gunshot wound, and the other for a tuberculous kidney, but in both I employed the anterior median route. In the first case there were evidences of wounds of other organs. In the latter case the kidney was pushed far anteriorly, and I thought the abdominal incision the better one.

The difficulties of the lumbar operation are certainly much increased where there is only a short space between the twelfth rib and the crest of the ilium. In Dr. Keen's case he found it impossible to reach the hilum; if he had employed the median incision at the post-mortem operation, instead of the incision through the linea semi-lunaris, he would have been able to have reached it without difficulty.

In regard to the sutures to be employed in *nephrorrhaphy*, I think that the failures have resulted from the use of catgut. We must employ a permanent suture, which will hold for a long time, and anchor the kidney until it is thoroughly fixed in its position. The question of decubitus is of importance. A month is the shortest possible time we can expect any fixation. The use of pads is very unsatisfactory. We are obliged to apply the pad upon the abdominal walls to an organ that lies deep in the loins with the intestines in front of it. We cannot hope to hold it in position by any such means. Therefore the dorsal decubitus should be maintained for a long time.

DR. M. PRICE: The case of Dr. Steinbach is certainly a very interesting one, and I see no other course save that which he tried, of operating by the abdominal method. Even in Dr. Keen's case, where he states that the first idea was an exploratory operation, I think that the anterior method would have been better. I think it is the better plan, even if after making the diagnosis you close the abdominal incision and remove the kidney by the lumbar method. An incision one and a half inches in length affords ample room for the examination of all the organs. I have twice examined both kidneys through such an opening. In one case of supposed gallstones, I found the viscera attached to the abdominal wall. After separating them, I examined the kidneys without difficulty, and found them in

¹Berlin. Klin. Woch., October 15, 1888. Philadelphia Medical News, December 1, 1888.

good condition. In the case where I removed the kidney, I had no difficulty in feeling both kidneys through a small abdominal incision. I think that if Dr. Keen had made the median abdominal incision, and found the kidney so seriously diseased, he probably would not have made as great an effort as he did through the lumbar incision.

Dr. Steinbach, in his report, does not state whether or not he used drainage. My impression is that the anterior route is the best for drainage, which, in these cases, is of paramount importance. So much tearing is done in releasing the kidney that drainage for twenty-four or forty-eight hours is necessary, or at least can do no harm. I do not believe that any drain answers its purpose so well as one that can be cleaned by the attendant or nurse. The best method to stop oozing of blood is to keep it cleaned away. Keep no blood in contact with the bleeding vessel.

I consider the danger no greater by the anterior than by the posterior method. It is the only method to employ in cases of gunshot wounds.

In regard to the use of morphia, I differ from Dr. Steinbach, unless he had made up his mind that the patient was going to die. I believe that morphia has a tendency to cause suppression of urine. It also lowers the vitality and assists in killing the patient. I should not think of using morphia in abdominal cases unless the patient were dying. Where morphia has been used in surgery, and especially in abdominal surgery, I have had cause to regret it.

DR. JOHN B. DEEVER: I may say a word in regard to the choice of incision. I have operated both by the abdominal and lumbar method. I consider that the anterior incision is preferable in cases of solid growths, particularly where they have reached any size. We run greater risks in attempting to break up the adhesions to the capsule by the lumbar incision, where we cannot see what we are doing, than we do through the anterior incision.

The proper course is, I think, to go through the linea semilunaris. This brings us nearer to the organ, and gives a better opportunity to work to the outer side of the colon, which is important, as the blood-vessels are in relation to the internal layer of the meso-colon, and not with the external layer.

In cases of liquid accumulations in the kidney, I do not think that we operate with quite as much facility anteriorly as posteriorly. The lumbar incision affords better opportunities for drainage under these circumstances, but drainage can be satisfactorily accomplished by the anterior method by the glass drainage tube.

The abdominal incision affords us better opportunities for the examination of neighboring organs. For purposes of diagnosis it is more satisfactory than the operation through the loins.

There is no doubt that nephrorrhaphy the

proper form of suture is antiseptic silk. I know of one failure resulting from the use of catgut. It is probably impossible to pass sutures through the capsule of the kidney without also involving the substance of the organ, yet I think if we could avoid wounding the kidney it would be better. I have no doubt that the appearance of albumin in Dr. Keen's case after the operation, was due to the sutures.

In regard to the meso-nephron, I have seen several cases of floating kidney in the dissecting-room, and I have yet to meet with an instance of a reflection of the peritoneum which could be called a meso-nephron. While I would not differ from so distinguished an authority as Dr. Morris, yet I have not met with this condition.

The question of removal of solid growths of the kidney is largely influenced by the age of the patient. It is almost useless to operate for carcinoma of the kidney in early life or in late life, so that the middle period offers the best chances for a favorable result in these cases.

DR. THOMAS R. NEILSON: In looking over the literature of nephrectomy, one is struck by the variableness of operators as to the method chosen to reach the kidney; and the remarks that have been made to-night clearly illustrate this. One writer will prefer the lumbar incision another will select the abdominal method, while a third will use either plan, and yet in all the instances the disease may seem to be about as extensive and the size of the kidneys may be the same. A great deal depends upon the choice of the operator, as well as upon the condition and proportions of the patient.

The statistics of the removal of the kidneys for malignant disease are so unfavorable that any operation seems to be almost hopeless; nevertheless, I do not think, that in individual cases, this should be a contra-indication if the operation seems to be justifiable on other grounds. In children, the statistics of Dr. Gross, in 1885, were that in thirteen operations only four recovered from the operation, and these subsequently died from return of the disease elsewhere.

In operating in cases of wound of the kidney, it would seem to be guided by the position and extent of the wound. If the wound involves the abdominal viscera, no one would hesitate to open the abdomen. On the other hand, if there were any doubt, the course of the wound should be followed and the kidney reached and explored. If there are marked signs of hæmorrhage, the operation should be performed at once. Even if the hæmorrhage is retro-peritoneal, it may be assumed that, sooner or later, the clot will by pressure force its way through the peritoneum and cause septic peritonitis. Careful exploration and thorough drainage in these cases is absolutely requisite. In subparietal wounds of the kidney, if operation be necessary, it would seem that the

only choice is the lumbar incision. As illustrating the tolerance of the kidney for a certain degree of injury to its substance, a point to which Dr. Keen has called our attention, I may mention the following case: Some years ago I saw, at the Episcopal Hospital, a man who was brought in with a large hæmatoma of the back, the result of being struck in the loin by the buffer of a locomotive. He recovered without operation. A year later he returned to the hospital with symptoms of stone in the bladder. At the operation instead of a stone, there was found a spicule of bone, one-fourth of an inch wide, and one-half or three-fourths of an inch long. I assume that there had been a fracture of one of the lower ribs, a fragment of bone being driven into the kidney or its pelvis, and later finding its way into the bladder.

DR. HENRY F. FORMAD: I rise to protest against the rather loose pathological nomenclature in regard to malignant disease of the kidney. We hear of cancer of the kidney and of sarcoma of the kidney. Alveolar sarcoma and cancer are used synonymously. This is Virchow's view. According to modern views all of these things are sarcomas. Again, there is no such thing as epithelium in the kidney. There is only epithelium which cannot give rise to cancer.

It is a true mesoblastic growth which can only give rise to sarcoma. We can take for granted that all of these cases reported as cancers are sarcomata.

In sarcomata there are sometimes hæmorrhagic infarctions which give rise to indurated masses, and on section give to the growth the book appearance of cancer.

It is a well-established fact that tumors of the kidneys and of the suprarenal bodies will not encroach upon surrounding structures. They do not cause metastasis; so that removal of the diseased kidney to prevent the spread of the disease is unnecessary. In view of the bad statistical results, I think it would be better if these cases of malignant disease of the kidney were let alone.

I have a point to make in regard to floating kidney. I began to record the occurrence of floating kidney, having pretty good opportunity to do so. I was so successful that every day I found a floating kidney. I began to investigate and I found that every woman had a floating kidney. The right kidney of nearly every woman is so loosely attached that floating kidney on the right side is a normal condition in woman. Actual floating kidney is merely a question of degree. When you attempt to reach the right kidney in autopsies on women it is difficult to find it, as it is never in the same place. It never lies in close proximity with the liver as in man.

DR. WILLIAM J. TAYLOR: I had the pleasure of assisting at the operation of Dr. Keen and would emphasize the fact of the tremendous

hæmorrhage, and also the extreme density of these calcareous masses. They felt exactly like a stone.

DR. JAMES TYSON: I would say a word with reference to the etiology of floating kidneys. I have had a number of such cases under observation. In searching for the cause, I have been compelled to conclude that in the majority of instances it is congenital, and what has been stated by Dr. Formad serves to strengthen this view. I have seen most typical instances of floating kidney in men, and I have seen it more frequently in women who have never borne children than in those who have had children. Even in those cases where it is supposed to have been caused by accident, I think that in all probability the condition has been congenital, and, if anything, only exaggerated by the fall.

In regard to the treatment of floating kidney by the use of pads, etc., I have had surgeons in consultation in cases of this kind, and I have never seen any advantage result from such devices.

DR. WILLIAM HUNT: I have recorded a case in which a fast kidney was found in the wrong place, which might confuse an operator cutting for the organ on account of symptoms. Some years ago, I made a post-mortem at the Pennsylvania hospital on a man who had died of concussion of the brain, in which I found the left kidney, enveloped in its capsule, lying upon the fourth and fifth lumbar vertebræ and partly covering the promontory of the sacrum. The sigmoid flexure passed along its outer and superior edges, while the rectum ran along the inner edge and from thence down the middle line of the sacrum. The emulgent vessels entered from above through a fissure in the kidney, leading diagonally from the superior edge to the pelvis.

The pelvis of the kidney and the ureter were normal, though of course the latter was shorter than usual. The sigmoid flexure embraced the kidney in its folds.

DR. J. M. BALDY: As regards the relative value of the lumbar and abdominal incision, the abdominal seems to me to present several points of advantage. Through the abdominal incision both kidneys can be reached with little difficulty. In all these troubles it is important that the second kidney should be examined, if the removal of one is contemplated. Where the lumbar incision is adopted this is, of course, impossible, and the difficulties of examining even the diseased kidney are well shown by the case under discussion. In the abdominal operation, the condition of the kidney could be determined, and just such accidents as happened in Dr. Keen's case—the stripping off of the capsule and the dangers of hæmorrhage and shock—would be averted.

There is great importance in drainage. A tube that can be kept clean, is the drainage tube *par excellence*—the glass tube is such.

In one case of malignant disease, in which I witnessed the removal of the kidney by the abdominal incision, the hæmorrhage not being entirely controlled, the peritoneal cavity was entirely closed off from the bed of the kidney by stitching the cut edges of the peritoneum together; prior to this, however, a counter-opening was made through the muscles of the back, and thus good drainage secured. Patient made a good recovery.

DR. JOHN B. ROBERTS: I wish to refer to a case of cure of movable kidney without operation. I had a boy, 7 years of age, referred to me four years ago by Dr. M. O'Hara. At irregular intervals the patient was seized with severe pain in the left side of the abdomen, and with this there was the appearance of a tumor in the hypochondrium and total suppression of urine. Various theories had been held to explain the condition. The only conclusion that I could reach, though this was not shared by Dr. O'Hara, was that the boy had a floating kidney, and that at the times of the paroxysms the ureters became twisted, causing the suppression of urine and the intense pain. The boy never had any pain or trouble with the urine except when the tumor was felt. At my suggestion Dr. O'Hara had made a pad which pressed against the left hypochondrium. This was worn for a short time. The boy then passed from my notice, but I learned a few days ago that he had perfectly recovered. There is, of course, in this case an element of uncertainty in regard to the diagnosis. When I looked into the literature of this subject, I was surprised to find how much stress was laid upon the possibility of the ureters becoming twisted, and the flow of urine being interfered with.

I wish, in connection with the question of the lumbar incision, to refer to an accident which I had in an attempt to explore the kidney for a supposed renal calculus. After making the incision down to the kidney, I determined to enlarge it a little. The diaphragm hung down in a fold and was readily seen. I made my incision a little longer in the upward direction, and made a minute perforation in the diaphragm where it is attached to the spinal column. There was a loud whistle as the air rushed into the pleura. I put in a suture and closed the opening, and no harm was done; but for a few days the patient insisted that the bandage was too tight, because he could not breathe freely. The pain which the patient had felt disappeared after the operation, although no stone was found. He went home before the wound had closed, and a number of months later died of some obscure disease.

It is important to recollect, when operating close to the vertebral column, that the posterior attachment of the diaphragm near the middle line extends further down than might be realized from watching its loose muscular curtain exposed in the wound.

DR. G. G. DAVIS: Dr. Formad seems to characterize all these growths as alveolar sarcoma. In primary growths of the kidney this may be correct, but such a statement gives one the idea that there is a sameness about these growths which is not the case. The tumor presented by Dr. Keen has the macroscopic appearance of scirrhus. In other specimens the growths may be smooth, resembling sarcoma found in other parts of the body. The macroscopic appearances of these tumors are decidedly different. When it is said that all growths of the kidney are alveolar sarcoma, I think that a mistake is made. Is not the kidney subject to secondary growths? We have an illustration of this in the case of Dr. Grove's. In his case, the first manifestations at least were in the axilla. In the report of the microscopical appearances, I did not hear the term alveolar sarcoma used. The disease of the kidney was what is commonly known as melanotic sarcoma. It was not supposed that the organ was the seat of a growth peculiar to the kidney.

DR. HENRY F. FORMAD: I did not mean to say that all tumors of the kidney were alveolar sarcoma. We have other forms of sarcoma, but what is commonly called cancer is alveolar sarcoma. Secondary growths of any character may occur, and even cancer may be secondary; but it will be only an insignificant part of the general disease.

DR. S. SOLIS-COHEN: The administration of morphia in these cases has been referred to. It is extremely dangerous to use morphia in any case in which the kidney has been treated surgically. I have seen several medical cases in which the use of morphia has produced suppression of urine. This point should be borne in mind by surgeons in the treatment of these cases.

DR. STEINBACH: I had expected criticism in regard to the diagnosis of my case, but nothing has been said on this point, and I therefore have little to reply to. Reference has been made to drainage. I was prepared to drain, but there was practically no hæmorrhage, and the whole procedure was perfectly clean, so that drainage was not required.

The dose of morphia given was very small, and was given without my personal knowledge. We have a house mixture containing small quantities of bromide and morphia. One dose of this was administered by the house physician. I do not use morphia after other surgical operations, and certainly would not use it in such cases as this unless strong indication existed.

DR. W. W. KEEN: I think that there is no doubt that in the case of a large tumor of the kidney, particularly a large solid tumor the size of which cannot be diminished by tapping, the position taken by several of the speakers is correct—that the anterior incision is the proper one. Where there is a small growth, or a stone in the

kidney, or the operation is an exploratory one, I cannot think that the anterior incision is the best. Statistics certainly show that the lumbar incision is attended with much less risks than the anterior. Where there is no reason to suppose that an unusual amount of room will be required, I think the lumbar incision is the proper one to employ.

It has been also suggested that possibly the anterior incision, in the present case of nephrectomy, would have given so much information that I should have decided not to operate. I do not think that I should have reached any such conclusion, for it was not the character of the growth, but the adhesions at the hilum that interfered with the removal of the organ, and these could not have been determined until the operation was in progress. I think that it would have been as impossible to remove the kidney by the one method as by the other. I had the pleasure of seeing Dr. Steinbach's case, but only for a moment just prior to the beginning of the operation, and I certainly was convinced that it was a case of enlarged gall-bladder with gall-stones. The slightest movement caused a grating of one stone upon the other. The tumor was in the position of the gall-bladder. I never before saw a kidney so displaced. The long axis, instead of being vertical, lay in an antero-posterior position, and the upper end of the kidney occupied precisely the position of the gall-bladder. The steps of the operation have been well described by Dr. Steinbach, and I have nothing to add. The mistake in diagnosis, under these circumstances, was very natural.

BOOK REVIEWS.

ELECTRICITY AND THE METHODS OF ITS EMPLOYMENT IN REMOVING SUPERFLUOUS HAIR AND OTHER FACIAL BLEMISHES. By PLVM. S. HAYES, A.M., M.D. Chicago: W. T. Keener.

The author has given the profession this little volume of 128 pages setting forth the subject in clear and concise language. In regard to the use of electrolysis in the removal of hair we learn that it has stood the test of not less than thirteen years and still stands as the most efficient means to be employed for this purpose. The book answers all possible inquiries that might arise in the mind of one interested in this subject, but still it does not hesitate to state that in no operation where human life is not involved does experience count for more than in this comparatively simple and easily executed procedure. We note that the author's ten years' experience in this use of electricity has taught him to anticipate the weakness of his fellow practitioner, whose mind is early reassured by the statement that he need know

nothing of the theory of electrolysis, but that he must understand that the galvanic current is the only one to be employed. And finally, under the admonition of a series of "Don't's," he says: "Don't attempt to use the faradic current for electrolysis." Would anyone think of doing so who had at any time in his life read a work on elementary physics, such as is in daily use in the common schools. We certainly hope he would not; and yet, however much we dislike this intimation against the learning of the medical profession in a branch of elementary science, we must, nevertheless, bear it, for facts seem to justify it.

If all books which are written for a presumably scientific body, *i. e.*, the medical profession, were written in a thoroughly scientific manner, utterly ignoring the wants of the untutored, it would be infinitely better, not only for that profession, but for their literature.

F. H. M.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE THROAT NOSE, AND AND NASO-PHARYNX. By CARL SEILER, M.D., Instructor in Laryngology and Lecturer on Diseases of the Upper Air Passages in the University of Pennsylvania, etc. Third Edition, thoroughly revised and greatly enlarged. With 2 lithographic plates containing 10 figures, and 101 wood engravings. 8vo, pp. xii—573. Philadelphia: Lea Brothers & Co. 1889. Chicago: A. C. McClurg & Co.

The author is a careful observer and a concise and accurate relator, and, rarer still in medical authorship, a master of the difficult art of omission. The result is a handbook which will be read throughout with pleasure and profit by thousands, to whom the more exhaustive treatises are of service for occasional reference only.

Much space, proportionately, is devoted to the anatomy and physiology of the upper respiratory passages, and to laryngoscopic and rhinoscopic technique, including the various methods of electrical illumination. Preference is accorded to the electric incandescent light, which has been made available even to those not upon a regular light circuit, by the introduction of storage batteries, one of which, suitable for this purpose, is figured and described.

A new chapter on acoustics, voice production, and articulation, imparts a halo of originality to this part of the volume and is especially acceptable, inasmuch as the author is known to be one of few laryngologists qualified to discourse on this part of the subject.

No one section better illustrates the general character and scope of the work than that on "Hypertrophy of the Tonsils," in which three varieties are described, the ordinary soft tonsil of childhood; the scirrhus tonsil of young adults; and the so-called ragged tonsil. So much nonsense

has been informally promulgated concerning the operation of tonsillotomy that we quote the following passage from this authority: "The best and most satisfactory way of treating hypertrophied tonsils is to cut them off as close to the pillars of the fauces as possible," which calls to mind also a recent dictum by Mr. Lennox Browne, "Chronic enlargement of the tonsils is only to be treated satisfactorily by the one method of excision, and there does not appear any valid reason why there should be two opinions on the subject." This author recommends the tonsillotome for the soft tonsil and the cold-wire snare, to avoid hæmorrhage, for the scirrhus variety. Cautery-puncture is advised only for the ragged tonsil. Total extirpation or enucleation is both unnecessary and dangerous.

The ordinary forms of chronic pharyngitis such follicular pharyngitis and pharyngitis sicca are summarily dismissed as symptomatic expressions of pathological states elsewhere. It were better even as symptoms to give them more extended notice.

"Functional Disorders of the Larynx," "Laryngeal Neoplasms," "Atrophic Nasal Catarrh," and "Hay Fever," are intelligently summarized, while "Catching Cold," "Clergyman's Sore Throat," "Laryngitis Phthisica," "Chronic Nasal Catarrh," and "Tumors in the Nasal Cavities," are adequately treated and embody many original views and valuable suggestions.

W. E. C.

MISCELLANY.

THE MEDICAL SOCIETY OF NEW JERSEY will hold its next annual meeting in the Coleman House, at Asbury Park, on June 18 and 19, 1889, commencing at 4 P.M. of Tuesday, June 18. President, H. Genet Taylor, M.D., Camden; Secretary, William Pierson, M.D., Orange, N. J.

THE NORTH TEXAS MEDICAL ASSOCIATION will hold its next semi-annual meeting in the city of Paris, Texas, beginning Tuesday, June 11, 1889, and continue its sessions for three days. The meeting will be called to order promptly at 3:30 o'clock, P.M. In addition to the subjects announced in the programme many interesting volunteer papers have been promised. It is requested that every one who may have a contribution for this meeting will upon his arrival promptly hand the title of his paper and his name to the Secretary, Dr. Geo. R. Clayton, so that it can be properly classified in its appropriate Section and come up in its regular order. The meeting in Paris promises to be one of the most attractive and successful the Association has ever enjoyed. Some distinguished visitors are expected to be present.

LETTERS RECEIVED.

Dr. S. W. Williston, New Haven, Conn.; P. R. Cortelyou, Marietta, Ga.; Dr. L. Woodruff, Alton, O.; Dr. C. F. Barker, Newport, R. I.; Baker, Collins & Co., St. Paul, Minn.; J. W. Clarke, B. W. Smock, Louisville, Ky.; State Journal Co., Lincoln, Neb.; Dr. Chas. C. Browning, Adrian, Ill.; Dr. R. Harvey Reed, Mansfield, O.; Dr. F. Allport, Minneapolis, Minn.; Dr. W. M. Sprigg, Washing-

ton; Dr. L. W. Steinbach, Philadelphia; Miss Julia B. de Forest, Cold Spring Harbor, L. I.; Dr. H. Isaac Jones, San Francisco, Cal.; Dr. Thos. W. Kay, Baltimore; M. E. Gaillard, New York; Dr. E. H. Pomeroy, Calumet, Mich.; Dr. H. J. Caldwell, Adel, Ia.; Dr. W. N. Simmons, Burlington, Vt.; Dr. C. O. Cooley, Madelia, Minn.; Dr. W. M. Moore, Paris, Tex.; Dr. F. Brother, St. Louis; Dr. H. Doe, Lyons, France; Dr. B. M. Ricketts, Cincinnati, O.; L. Hibbe, New York; Dr. Wm. B. Canfield, Baltimore; C. W. Franzoni, Washington; Dr. A. Parker Champlin, Ship Island, Miss.; B. Coryell, Chesaning, Mich.; W. P. Jones, Burlington, Vt.; Lambert Pharmacal Co., St. Louis; Frank, Kiernan & Co., New York; Dr. E. Chennery, Boston; Dr. A. R. Burton, Princeton, Ind.; Upjohn Pill and Grannle Co., Kalamazoo, Mich.; Parke, Davis & Co., Detroit; Dr. L. S. McMurtry, Danville, Ky.; Dr. John M. Batten, Pittsburgh, Pa.; Dr. W. D. McCau, U. S. A., Fort Crawford, Col.; J. W. Parsons, Omaha, Neb.; J. H. Bates, New York; Dr. Louis A. Kengle, San Francisco; Dr. Geo. F. Cook, Oxford, O.; Dr. Jno. G. Ames, Palatka, Fla.; Long Island College Hospital, Brooklyn, N. Y.; P. V. Dolon, Washington; W. E. White, Burlington, Vt.; Dr. S. G. Webber, Jamaica Plain, Mass.; Fairchild Bros. & Foster, New York; Dr. M. A. Olive, Meridian, Tex.; Henry Liddell, Washington; Dr. Frederick E. Hyde, New York; Dr. Clark Gapen, Omaha, Neb.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 18, 1889, to May 24, 1889.

Major William H. Forwood, Surgeon, leave of absence granted on surgeon's certificate of disability, in S. O. 35, Dept. of Dakota, April 8, 1889, is extended one month on surgeon's certificate of disability, by direction of the acting Secretary of War. Par. 13, S. O. 118, A. G. O., Washington, May 22, 1889.

Major Passmore Middleton, Surgeon, will, as soon as practicable after his arrival at Ft. Trumbull, Conn., proceed to Ft. Warren, Mass., and report for temporary duty until the return of the post surgeon from detached service with batteries of the Fourth Artillery ordered to Atlanta, Ga. He will then return to his proper station (St. Francis Bks., Fla.). Par. 2, S. O. 113, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, May 18, 1889.

Capt. Aaron H. Appel, Asst. Surgeon, leave of absence granted in S. O. 38, Div. of the Missouri, April 16, 1889, is extended twenty days, by direction of the Secretary of War. Par. 2, S. O. 114, A. G. O., Washington, May 17, 1889.

Capt. William Stephenson, Asst. Surgeon, granted leave of absence for four months, with permission to go beyond sea, by direction of the Secretary of War. Par. 15, S. O. 114, A. G. O., Washington, May 17, 1889.

First Lieut. Ogden Rafferty, Asst. Surgeon, granted leave of absence for one month. Par. 3, S. O. 29, Hdqrs. Dept. of Texas, San Antonio, Tex., May 13, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending May 25, 1889.

P. A. Surgeon L. G. Heneberger, detached from the "Thetis" and ordered to the "Iroquois."

Asst. Surgeon F. A. Hesler, promoted to be Passed Assistant Surgeon in the U. S. Navy.

CORRIGENDA.

In the report of Dr. Wm. H. Welch's paper on "Hydrophobia," published in THE JOURNAL of May 18, occur the following errors: Page 601, col. 1, line 23 from top, read Zagari, instead of Lagari; p. 601, col. 1, line 21 from bottom, read milk, instead of neck; p. 601, col. 1, line 15 from bottom, read nerves, instead of nerve; p. 601, col. 1, line 13 from bottom, insert *only*, after multiplication; p. 602, col. 2, line 15 from top should read, "Dr. Welch collected from Pasteur's reports for 1887 and the first half of 1888," etc.

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ORIGINAL ARTICLES.

MEDICAL EDUCATION, AND THE LAWS REGULATING THE PRACTICE OF MEDICINE IN TURKEY.

BY THOMAS W. KAY, M.D.,

EX-SURGEON TO THE JOHANNITEL HOSPITAL BEIRUT, SYRIA.

While the present cry for higher medical education is going on, it may be profitable to consider what is being done in that line in other countries. The condition of medicine in England, France and Germany is well known to most of us; but we are comparatively ignorant of what is being done in Turkey, a country containing an area of about 1,700,000 square miles, and having some 45,000,000 inhabitants.

Its medical practitioners are derived from both native and foreign schools, the latter being represented by both Europeans and Americans. All persons holding foreign diplomas must present them at Constantinople to their respective consulates; where, if from reputable colleges, they are visé by the minister. They must then present themselves at the Imperial Medical School, and pass a colloquium in French or Turkish, or through an interpreter, before three or more of the professors, satisfying them that they are physicians, and the rightful owners of the diplomas.

The colloquium is short but thorough, and one is treated with the greatest respect. No distinction is shown between American and European graduates, though this is the only place in Europe where such is the case. The short and imperfect courses of many of our medical colleges are only too well known abroad, and as a consequence of this, the average American M.D. has little or no standing with European physicians. The American dentist, on the contrary, stands at the head of his profession all over Europe. The colloquium costs about \$35, and a permit is given which authorizes its holder to practice medicine in all parts of the Turkish Dominions.

More is required of Turkish subjects who return from America with medical diplomas, and they are obliged to pass as rigid an examination as the students of the Imperial School. In some cases a year or more must be spent in study before

they can pass. The justice of this distinction will be readily seen when we reflect for a moment on the requirements of the respective schools. Legally, no one can practice medicine in Turkey without a diploma or permit from Constantinople; but there, as in most countries, we find more or less bribery, and in many out of the way places the law is disregarded.

In the whole Turkish Empire there are only five institutions in which there is any teaching of medicine, and in only two of these are diplomas given.

The Imperial Medical school of Constantinople was founded in 1833 by the Sultan Mahmoud. It has a six years course, an average class of 450, and, since its foundation, has had some 1,400 graduates. The faculty consists of twenty professors, at the head of which is Dr. Marco Pasha, one well fitted for the important position he holds.

The Cairo School of Medicine is several years older than that of Constantinople, having been founded in 1827, under the reign of Mohammed Ali, at Abu-Zabel, from which place it was removed to Cairo. It has a preparatory course of one year, and a medical course of five years of eight months each. Its classes vary in size from 160 to 200, and its graduates average yearly about twenty. There is a Director, Dr. Issa Pasha Handy, and twenty professors connected with the Cairo School. Its diplomas can be used only in Egyptian territory and, should its graduates wish to practice in any other part of the Turkish Empire, they must first pass a colloquium at Constantinople and obtain a permit as in the case of graduates of foreign colleges.

The Syrian Protestant College at Beirut established a medical department twenty-two years ago, since which time it has graduated 105 students. There are five professors and a President, and its course is four years. The Government permits it to give only a certificate to its graduates stating that they have followed the regular course and have successfully passed their examinations. This, when presented at Constantinople, entitles its holder to an examination at the Imperial Medical College, after passing which he receives his diploma.

There are two other institutions which have tried, but in vain, to get some recognition for

their medical departments from the Government. They are the Central Turkey College at Aintab, and the Jesuit College at Beirut—both, like the Syrian Protestant College, missionary institutions.

All efforts aimed at the Mohammedan religion are aimed at the Turkish Government, hence she justly guards her country against all missionary institutions, but especially medical colleges, for the influence of the medical missionary is greater than any other.

The standard of medical education is set by the Constantinople School, and, as that has a six years course, all of the other colleges have practically the same, the discrepancy in time being made up for in the requirements for matriculation, so a description of one college will do for all.

Through the kindness of Drs. Grant-Bey and Issa Pasha Handy, of Cairo, I have succeeded in getting an accurate account of the Cairo School, so I will confine my remarks to this. A minute description of it by Dr. Grant-Bey will be found in the Arabic medical journal *U'sh-Shifa* for 1888.

This school was founded by Dr. Clot, a Frenchman—afterwards the famous Clot-Bey. After him, the position of Director was held successively by Perron, Chaffey-Bey, Griesinger and others. It was in Griesinger's time and at Cairo that Bilharz discovered the parasite bearing his name. At first, the lectures were delivered in French and translated into Arabic for the students, who studied the French language at the same time. The European professors have been gradually supplanted by natives, till now only one remains. At the same time text-books were being written or translated into Arabic, so that at present all teaching is done in that language. Since British influence has been so great in Egypt, a professor of English has been appointed; and each medical student, in addition to his own language, must have a knowledge of either English or French. The building for the School of Medicine is quite new, with all modern conveniences, and attached to this is, 1, a Museum of Pathological Anatomy; 2, Bacteriological Laboratory; 3, Laboratory of Practical Chemistry; 4, Laboratory for Microscopy; 5, Museum of Zoology and Comparative Anatomy; 6, Museum of Mineralogy and Geology; and 7, Collection of *Materia Medica*.

Near the medical building is a large hospital with an average of 400 patients, the clinics of which students of the second, third and fourth years are required to attend. Those of the fifth year are attached to the Hospital of qasr-el-Ainy, as externes and internes, while preparing for their final examinations.

In connection with the medical school is a school of pharmacy and a school of midwifery; the latter, however, because of social and religious prejudices, is lacking in practical training. The course for each of these schools requires four years for its completion.

All applicants for matriculation must be 16 years of age, and present certificates as to moral character and preliminary training, and they must pass oral and written examinations in Arabic, English or French, history, geography, arithmetic, cosmography, geometry, algebra, physics, chemistry and natural history.

Physics. This is studied in the preparatory year, 96 hours being devoted to didactic, and 192 hours to laboratory work. Chemistry is taught during the preparatory and first years, 96 hours being devoted each year to theoretical and practical work.

Natural history extends through the preparatory and first years, 96 hours being devoted each year to theoretical and practical work.

Physiology is taught the first and second years, during the first there being 96 hours of didactic, and 64 hours of practical work; and during the second year 96 hours of didactic and 192 hours of practical work. Micrography is also studied during the first and second years, there being 64 hours of didactic and 128 hours of practical work each year.

Anatomy extends through the first and second years, there being 96 hours of didactic and 192 hours of practical work each year. Each student is also required to dissect an entire human corpse his first, and the same his second year.

Pathological anatomy is studied during the third year, there being 128 hours of didactic and practical work.

Internal pathology is taught the third and fourth years, 96 hours being devoted each year to the subject, each student being instructed practically in the various modes of diagnosis, and the holding of autopsies. Surgery is taught during the third and fourth years, 96 hours being devoted each year to its study; the third year being chiefly didactic, and the fourth clinical surgery.

Operative surgery is taught the third year, there being 96 hours devoted to its theory and 64 hours to its practice. Each student must perform the operations on the cadaver and on the mannikin.

Materia medica is taught during the third year, 96 hours being devoted to the subject.

Obstetrics is taught during the fourth year, 96 hours being devoted to the didactical part and demonstrations on the mannikin. When cases occur in the hospital the students are required to be present.

Ophthalmology. Ninety-six hours are devoted to this during the fourth year, and are composed of lectures and demonstrations, most of the practical work being done at the hospital clinics.

Hygiene is also studied during the fourth year, having ninety-six hours devoted to it.

Legal medicine is studied the fifth year, 96 hours being spent in theoretical and practical work.

Pharmacology is also studied the fifth year, 96 hours being devoted to didactic and 192 hours to

practical work, the students having to assist in the pharmaceutical course. As yet, no chairs have been created for gynecology and pediatrics; the one being included under surgery, and the other under internal pathology.

Examinations are held at the end of each year on all that has been studied, and four final examinations are held at stated periods. These examinations are oral, written and practical; the student being required to examine and diagnose, in the presence of the examiners, two cases of internal disease, two cases of diseases of the eye, and two specimens of pathological anatomy with the microscope. Should he answer less than two-thirds of all the questions, or should he get zero on any one subject, he will be rejected.

The Board of Examiners for admission to the study of medicine is composed of the professors of the College, with four others appointed by the Minister of Public Instruction.

For the yearly examinations a Board of Examiners is chosen by the Government Medical Department and the Minister of Public Instruction, who act conjointly with the professors of the College. These examiners are chosen from medical men in the employ of the Government and private practitioners, all of whom have equal rights in voting, which insures a rigid and impartial examination.

Does not a system like this, in a country which labors under as many disadvantages as Turkey, put to shame many of our medical institutions in America?

TEMPERAMENT.

Read before the Denver Medical Association, and Arapahoe County Medical Society.

BY S. EDWIN SOLLY, M.D.,
OF COLORADO SPRINGS, COL.

What is it? To most of us it is a certain though ill-defined factor to be reckoned with in our dealings mental or physical with our fellow man.

In our efforts to exert an influence over one another, in religion, in politics, in trade, in education, and in disease, we all feel that this nebulous something has to be taken into account.

It appears as the resultant of various forces in the individual, and gives distinction and point to the character, in short, individuality to the individual. It is shown in the bone, in the outline, the motion, the thought, and the temper. The name implies that it is the tempering and mixing of different characteristics or qualities together, rather would it seem to be the resultant produced from the convergence of several forces and tendencies in the individual.

The ancient writers upon our art endeavored to explain these different underlying forces as due to certain humours, the history and description of their views is too well known for me to recapit-

ulate them here. We moderns have accepted and must still accept much of their nomenclature, but we have rejected their explanations of the causes of the several temperaments, without seriously concerning ourselves with finding new ones. A recent writer in *The Medical Record* (August 4, 1888), in reviewing two essays of Hellurg, upon temperament, says, "Physicians learn, consciously or unconsciously, to recognize temperamental differences, and to suit both manner and medicine to the fact." He further goes on to remark that the best definition has been given by Muller, who essentially describes temperament as "The reaction of the individual to his environment." In the same article Hellurg's tabular definition of temperament is presented, which is founded on the view that it is the varying strength of the reception of an impression and of the reaction of the individual to it, that distinguishes the temperament.

HELLURG'S TABLE.

TEMPERAMENT.	RECEPTION.	REACTION.
Choleric.	Strong.	Strong.
Sanguineous.	Strong.	Feeble.
Melancholic.	Feeble.	Strong.
Lymphatic.	Feeble.	Feeble.

Darwin Hudson (Johnson's Encyclopædia) defines temperament "As a mixture or tempering of the essential elements of the body, whose excess or variable quantity determines the chief characteristics of mind or physique."

What are the essential elements of the body? In the various definitions of temperament that are to be found there is always a reference to some such undefined factors as being at the foundation of the problem of temperament. Before we can build up any reasonable scheme of temperament we must clear off the wrappings and expose the root of the matter, in short we must explain what is meant by the essential elements of the body.

What is the essential quality of living matter? its power of renewal, that is, nutrition. When a portion of elementary living matter, which we term protoplasm, becomes separate and individual, as in an amœba, what is the essential quality of its individuality? It is its capacity to receive an impression from and its power to react to its environment. This quality is exercised through nerve force. It is true that we cannot detect nerve structure, as we know it, in the dawning life of the individual, but though the localized and visible machinery, which we term nerve tissue, is not apparent, the real essential element of nerve force is undoubtedly diffused through the general mass of the individualized protoplasm, conferring on it the capacity to receive impressions, at least in an elementary manner.

The first reaction of the separate piece of protoplasm to the reception of an impression received from its environment would appear to be the formation of a cell wall, whereby it reacts to external

pressure by hardening itself superficially. Thus it defines its individuality and protects itself in the exercise of its essential function of nutrition, which function consists of the importing of raw material for food and the manufacture of it into the structure of the individual. The first evidences of a nervous system show that it is used to receive and react to impressions made from without; the passing food is drawn in when reflex action is developed by the impression received from without.

Thus we see that a living individual has two essential qualities, nutrition, whereby it lives, and innervation, whereby it individualizes itself, both essential to each other.

The evolution of nutrition is, briefly, thus: Simple absorption and assimilation of food by the whole mass of protoplasm and the general excretion of its waste; then the localization of digestion in a stomach; next the carrying of the digested nutriment to remote parts by lymphatic vessels, then this circulatory process elaborated into a vascular system, with its heart or pump. Then a portion of the clear, white lymph gradually changed into red blood, then the chemical changes producing bodily heat. Thus the circulatory system of nutrition passes from a lymphatic, cold-blooded stage to the warm, red-blooded form of the mammal.

The nervous system beginning in the sympathetic form, next the motor and sensory, up to its highest elaboration in the brain of man, with its power of receiving impressions without bodily contact, by means of thought.

Through innervation comes the power of reception of impressions made upon the individual.

Through nutrition the power of reacting to such impressions, the latter being exhibited immediately through its circulatory system, which in man in its most important form, with respect to the power of reaction, is sanguineous.

The essential difference in reception is in speed, and, therefore, the two chief divisions are into quick and slow. Quick reception may be best called "nervous;" slow, "phlegmatic."

The essential difference in reaction is in strength, therefore the chief division is into strong and weak. Strong reaction may be called "sanguineous;" weak, "lymphatic."

Thus temperaments should be primarily divided into those of quick reception, nervous, and those of slow, phlegmatic, those of strong reaction, sanguineous, and those of weak, lymphatic. But as each individual has both qualities of reception and reaction, so each quality should be expressed in the name of each temperament; therefore taking these four in their main varieties of combination, we have eight different temperaments, the first of the names signifying the most pronounced of the two qualities as exhibited in the temperament.

TEMPERAMENT.	RECEPTION.	REACTION.
1. Nervo-sanguineous.	Quick.	Strong.
2. Nervo-lymphatic.	Quick.	Weak.
3. Phlegmo-sanguineous.	Slow.	Strong.
4. Phlegmo-lymphatic.	Slow.	Weak.
5. Sanguineo-nervous.	Quick.	Strong.
6. Sanguineo-phlegmatic.	Slow.	Strong.
7. Lympho-nervous.	Quick.	Weak.
8. Lympho-phlegmatic.	Weak.	Weak.

No mention has been made of a normal or balanced temperament, as it was styled by Galen, it being an ideal not met with in real life. The nervo-sanguineous, or perhaps rather the sanguineo-nervous, would be nearer to it, that is with respect to quality, though it may not be in regard to quantity. That is, it is normal when the reception of an impression is in proper degree to the cause. For instance, a normally nervous person, when angered with sufficient cause, would not let his passion run riot, but would fit it to the occasion, while the abnormally nervous person is thrown into a passion by a trifle or is over-excited by trifles. The normally sanguineous individual, when affected by disease or injury, responds by vascular excitement and perhaps even inflammation, sufficient to defend his tissue or repair the damage, and no more. The phlegmatic temperament is always behindhand in its work of reception, and is evidently a type of arrested evolution at the stage when the sympathetic and motor systems are well developed and the sensory yet incomplete.

The lymphatic temperament always lags behind in reacting to the stimulus conveyed to it through the nervous system, and may be looked upon as a type of arrested evolution at a stage when the change from white, clear, cold lymph to red, thick, hot blood is going on, but is not fully accomplished.

An individual born with a certain temperament can undoubtedly modify it considerably by force of will and education. Circumstance or disease will also modify, and permanently or temporarily change the relative force of its phenomena. Change of climate often exaggerates or diminishes certain of its manifestations. As physicians the impression made upon temperament by disease is what chiefly concerns us. The reception of the impression made by the invasion of the body by disease is quick or slow, excited or calm, according to whether the individual is of the nervous or phlegmatic, and reaction is strong or weak as he is of the sanguineous or lymphatic temperament. Thus, in the nervo-sanguineous person affected by disease the tendency is to exaggerated nervous excitement and inflammatory change. In fact, the call to arms is quick and loud, and the defense of the citadel of life is vigorous, the rapid circulation promptly expelling the offender by excretion, or, if a lodgment has been gained, building up earthworks of plastic exudation and limiting the mischief; but, like vaulting ambition, nature oft

o'erleaps herself and falls on the other side. Thus the physician may have to moderate the excitement of both nervous and vascular systems, and later, perhaps, to treat the products of over-zealous inflammation. In the nervo-lymphatic, the same excitement of the nervous system is seen, but the excretion of the *materies morbi* is too feebly executed and the defensive lymph changes are too slight to protect, so the disease spreads through the system with much irritation and but little inflammation; the temperature being often higher than the amount of the inflammation appears to warrant.

In the phlegmo-sanguineous individual, on the other hand, the inflammation, which tends to be great, is out of proportion to the rise of temperature and nervous irritation, which are comparatively slight.

In the phlegmo-lymphatic both inflammation and temperature, vascular excitement and nervous irritation, are slight, and fail to reveal the amount of damage done by disease, the progress of which, when once begun, is uninterrupted by the defenses thrown out by inflammation. Knowing the temperamental type of a patient, we can explain and allow for many of the incongruities of pulse, temperature, and nervous phenomena that we meet with.

How are we to diagnose the temperament? Is the individual plethoric or anæmic in appearance? finely chiseled in feature and small-boned, or coarse in outline and large-boned? is he mentally quick or slow in conversation, and nervous or phlegmatic under our examination? is his view of his case exaggerated in its despondency or cheerfulness? Does his history show a tendency to inflammation or to passive congestion? Is he inclined to fever? Does he react quickly to cold? Are his feet usually warm? These, suggestively, are some of the observations and questions which will give us the material for classifying a patient's temperament.

The old classification of temperaments into hot and cold suggests the sanguineous or hot and full-blooded, the lymphatic the cold and thin-blooded. The old forms of dry and moist are suggestive of the nervous and phlegmatic, high nerve tension and dryness being necessarily allied, while moisture and low tension are equally inseparable.

If Hellurg's table and the one herewith presented are compared, the first four temperaments are identical except in name. The nomenclature suggested is somewhat cumbersome, and if it could be lightened without losing the advantage of the name conveying the meaning and the dual nature of the temperament, it would doubtless be better. The chief advantage, if the previous premises are accepted, is that the meaning and the name are linked together, instead of, as in other titles, the meaning being open to various

interpretations and merely suggestive of ancient physiological errors and not of the underlying and causative physical facts.

These definitions admit of subdivisions if needed to describe particular temperamental peculiarities, as in the nervous system when the mental, motor or sympathetic systems appear most prominent in excess or deficiency of action; or with respect to special phenomena of nutrition as exhibited in the working of a special organ, as the liver, stomach, etc. All these, however, will be found to ultimately range themselves under the divisions here given. Diatheses which are pathological temperaments, and excess or deficiencies of function dependent upon pathological changes, are not here considered.

In presenting this plea for placing the rational consideration of temperament among the scientific means at our command for forming a diagnosis and conducting a treatment, I desire to do something towards a revival of the study of the physiognomy of the diseased person. In the proud possession of our arms of precision and our more scientific knowledge of disease, we modern Æsculapians have too much neglected what might be deemed the observing of the *tout ensemble* of our cases; a valuable aid to diagnosis which, from their very poverty of resources, our parent leeches cultivated with success, whilst we, through our comparative richness of weapons, have too much neglected.

Therefore let us be ambidextrous, and while in one hand we bear to suffering humanity the fruits of our knowledge of disease, in the other let us carry those gathered from our study of the individual.

EXTRA-UTERINE PREGNANCY. OPERATION. RECOVERY.

Read at the Regular Meeting of the Philadelphia County Medical Society, April 19, 1889.

BY E. P. BERNARDY, M.D.,
OF PHILADELPHIA.

On the morning of November 15, 1888, I was requested to see Mrs. F., who had been taken suddenly with a sharp agonizing pain in the abdomen; the pain came on while in the yard, and it was with the greatest difficulty she was brought to her room. I saw her very shortly after, and found her suffering from shock: pulseless, upper and lower extremities cold, face pinched, complaining of pain in the left side of the pelvis; hot bottles were placed at her sides and feet; $\frac{1}{4}$ grain of morphine sulphate every fifteen minutes until relieved of pain; same evening pains somewhat easier, but have now assumed a colicky nature; found the menses had been arrested since September 13, 1888. Suspected intra-uterine pregnancy.

November 16. No sleep during the night, col-

icky pains all night, has recovered from the shock. Obtained the following history: Age 34 years. Married twice; four children by the first husband, none by the second; there seems to be a somewhat obscure history of gonorrhœal infection by the first husband; has been married eleven years to the second husband; has never missed her menses until at the time above stated.

The day previous to falling sick she carried up to the third-story room two buckets of coal; went to bed not feeling well; was taken, as stated above, with a sensation of something tearing in the abdomen, followed immediately by agonizing pelvic pain and collapse. Diagnosed ruptured tubal pregnancy.

17th. Vomiting the morphine; changed to rectal suppositories of ext. opii, gr. j. every two or three hours. Warm poultices over abdomen. Vaginal examination revealed a large and sensitive tumor on the left side and back of the uterus, so painful that the most careful examination elicited cries of pain.

From 18th to 25th all acute symptoms abated, the patient recovering her strength. On the 25th show of blood from the vagina, which continued for nearly two weeks; free from pain during the day, but at night is kept awake with colicky pains in the abdomen; pain extending down the left leg.

26th. Again made a careful examination; found a large, extremely sensitive tumor on the left side of uterus, somewhat to the back, throwing the uterus, which was enlarged, forward. Hinted the propriety of a consultation.

December 10. A large mass passed from the vagina, which was attended with expulsive pains, leaving the patient to suppose that she had aborted. It looked like the after-birth, was the remark of the patient. Unfortunately it was thrown away, as of no consequence, and I did not see it. The patient was hardly free of pain; walking or any sudden movement would bring on pain; loss of sleep.

23d. She called at my office, and after examination I informed the patient that her only chance was an operation, and desired further professional advice.

26th. Case examined by Dr. J. Price.

Operation December 29, 1888. Present: Professor Agnew, Drs. Levis, M. Price, Kynett, E. P. Bernardy. Operator, Dr. Joseph Price. The usual abdominal incision was made, and the abdominal cavity opened. Ruptured left tubal pregnancy. The left appendages filled the pelvic basin, the primary rupture having occurred between the folds of the broad ligament, with secondary rupture into the peritoneal cavity. General firm adhesions. The pelvis was emptied of clot, the placenta and membranes coming away in the tube, the right tube was diseased; hydrosalpinx; it was removed. Irrigation and glass

drainage. The patient is now entirely well; with the exception of a somewhat prolonged shock following the operation, there was no bad symptom.

The first natural question will be, Why was not the operation performed sooner? For two reasons: First, the patient rallied well from the first shock, there was relief of the acute pain and general improvement of health; the second reason, if I had suggested an operation at the first I would have undoubtedly been discharged. Feeling confident of my diagnosis, I made it my duty to gradually educate my patient up to the point of operation. When it was decided to operate I simply notified the patient she would be operated on within the next twenty-four hours.

The history was a typical one of an extra-uterine; hardly a symptom, as laid down in Parry's book on "Extra-uterine Pregnancy," was lacking, and any mistake in the diagnosis could only have been made through gross negligence.

DR. J. M. BALDY: A great deal has been said in regard to the influence of gonorrhœa in the causation of various affections. I notice that Dr. Bernardy has made it a prominent feature in his case; I would ask if he insinuated that the extra-uterine pregnancy was due to the attack of gonorrhœa?

DR. E. P. BERNARDY: I mentioned gonorrhœa simply as one feature in the history of the case. From the extensive disease in the opposite tube, I think there is reason to believe that the attack of gonorrhœa was at the bottom of the extra-uterine pregnancy.

DR. G. G. DAVIS: The question of the ligature coming away is one that is applicable to general surgery as well as to special abdominal work. There seems to be a tendency to attribute the trouble to the large size of the ligature. That a large knot or a large thread would give trouble where a small one would not is no doubt true, but I do not think it proper to attribute all the bad results to the size of the thread. Where pus follows the application of a large thread, it does not necessarily follow that the thread is the cause of the pus. It is well known that it is extremely difficult to cause pus by placing foreign bodies in healthy structures. If the bodies are infected it can be readily done. In the case referred to by Dr. Price the question might arise whether or not the trouble with the large ligature was due to its being infected, while the small ligature was not. Many years ago I saw Mr. Thomas Smith, in St. Bartholomew's Hospital, use silk to tie arteries. Some would suppurate and others would not. This was in the time of carbolic acid. There can be no question that the more correct are the anti-septic precautions, the greater the proportion of cases in which the silk ligature, whether large or small, will remain harmless and be covered with lymph.

DR. JOSEPH HOFFMAN: In my case of extra-uterine pregnancy I simply found a mass in the pelvis and recognized the importance of its removal. The history agrees closely with that given by Dr. Bernardy, although there was no history of gonorrhœa and no long preceding period of sterility. The case was a terrible one. I never saw such a mass of matted abdominal contents. The tube of the opposite side was so adherent to the intestine that in its separation the bowel broke. The gut was resected and dropped. The patient made an uninterrupted recovery.

DIGITAL DIVULSION OF THE PYLORUS FOR CICATRICIAL STENOSIS.

Read before the American Surgical Association, May 15, 1889.

BY J. M. BARTON, M.D.,
OF PHILADELPHIA.

Digital divulsion of the pylorus for cicatricial stenosis as first practiced by Prof. Loreta, of Bologna, Italy, in 1882, has scarcely received the attention which I think it deserves anywhere except in Italy. The mortality from the twenty-five operations which I have succeeded in collecting is not great, when we consider that every successful case is a patient rescued from certain and by no means distant death, and this mortality is already decreasing.

The cases in which the operation would be of service are not so rare. When searching the journals for records of such operations, I found the reports of the presentation of many specimens of cicatricial stenosis of the pylorus to various pathological societies. My own experience has been limited to two operations. Even the first, though it proved fatal on the fourth day, encouraged me to operate again, as I was fully satisfied that had it been performed earlier, when the patient was stronger, there was no reason why it should not have been successful.

My second case has the following history: Mrs. G., æt. 48 years, a patient of Dr. Adams, of Vineland, N. J., was first seen by me at her home near Vineland, in December, 1888. For convenience of study and operation, I admitted her to Jefferson College Hospital in January, 1889. During 1884, 1885 and 1886, she had suffered from gastric ulcer. She had pain and vomiting immediately after eating, the vomiting occurring as often as six times in the twenty-four hours; she lost greatly in weight and had two severe hæmorrhages. In 1887 all of the symptoms left her, and for the greater part of the year she enjoyed excellent health, weighing in January, 1888, 143 lbs., which was more than she had ever weighed in all her life. During 1888, she became very ill with symptoms of pyloric obstruction, and lost

flesh rapidly, weighing after her admission to the hospital (January, 1889) only 93½ lbs. She then vomited but once in twenty-four or forty-eight hours. This occurred when she laid down at night and was not accompanied by nausea. It was usually from 1½ to 2 quarts in quantity and measured nearly, and sometimes quite, as much as all the nourishment taken since the preceding act of vomiting twenty-four hours before. Many articles taken during the day could be recognized; indeed, she stated that she had occasionally been able to recognize articles eaten as long as two weeks before. As she took her meals she felt that the stomach was becoming more and more distended, and when she laid down at night, gravity brought the contents of her stomach into her throat and they were then vomited. Her bowels were obstinately constipated, acting only once in twelve or fourteen days, and then only after frequently repeated large injections; purgatives administered by the mouth producing no effect. She had lately been able to occasionally feel a small tumor, about the size of a hazel nut, 2 inches to the right of the umbilicus and situated quite deeply. Her stomach was greatly enlarged; distended by the carbonic acid gas developed from half of a soda powder, it reached as low as the umbilicus and as far as the small tumor, though we could not say that the tumor was connected with the stomach. The vomited matters separated themselves into the usual three layers, the middle one being quite clear. They were nearly free from undigested food and not offensive; free hydrochloric acid, though searched for, was not found.

The operation was performed in the presence of the class of Jefferson Medical College, February 16, 1889. The surface of the abdomen had been prepared the day before, the mercurial dressings being still on when the patient was brought into the amphitheatre. Her stomach had been washed out on the morning of operation with a solution of bichloride of soda. This had been repeated until the fluid returned quite clear. Chloroform was used as the anæsthetic in preference to ether, as being less apt to be followed by vomiting. The hands and instruments having been prepared with antiseptic solutions, I made a median incision through the skin about 4 inches long, terminating at the umbilicus. The peritoneal incision, however, was only 3 inches in length. There was but little bleeding, and it was readily controlled by clamp forceps.

The dilated stomach was found directly beneath the incision. The juncture of the stomach and duodenum, even from the outside, was markedly contracted and irregular on its surface. There were no adhesions and there was no tumor. The tumor was found to be a hard scybalous mass in the ascending colon, which also contained quite a number of smaller masses of hardened fæces. As the wall of the stomach, 3 inches from the pylo-

rus, felt quite healthy, I folded it transversely midway between the greater and lesser curvatures, and with a pair of sharp scissors made an incision between 1½ and 2 inches in length. There was no bleeding requiring attention. I introduced my index finger through the incision and felt the pylorus contracted to about the size of a No. 10 French catheter. Its margins were quite hard and fibrous. As the fingers would not enter, the blades of a small uterine dilator were guided by the finger into the contracted pylorus, which was then readily dilated until it admitted the index finger. With the aid of a pair of cesophageal forceps it was still further dilated until both the index and middle fingers were admitted, the two fingers were then separated about ½ inch, when I ceased, feeling that further effort would probably rupture the mucous membrane. This dilatation gave to the pylorus a circumference of 4½ inches.

The mucous membrane of the stomach at the point of incision was brought together by a continuous silk suture, and the serous coat by a continuous Lembert suture, also of fine silk carried in an ordinary sewing needle. This suture was introduced deeply into the muscular coat in order to obtain a firm hold; even then it tore out at one or two points, requiring an interrupted suture to be used at those places. When the finger was first introduced into the stomach it caused some retching, forcing most of the stomach out of the wound, where it was kept during the subsequent manipulations. After the wound in the stomach was closed the organ was carefully sponged and restored to the abdominal cavity. The abdominal wound was then closed and dressed in the usual manner.

The patient vomited about 4 ozs. of blood half an hour after the operation, but there has been no nausea and no vomiting since. She was nourished exclusively by the rectum until the fourth day. From that time until the fourteenth day she was fed upon peptonized milk and animal broths. After the seventh day she took from 48 to 60 ozs. of liquid nourishment in the twenty-four hours. Some solid food was given on the tenth day, and after the fourteenth day she was fed upon a carefully selected solid diet. On the thirtieth day after operation she was able to eat eggs, mutton chops, oysters, beef, chicken, lamb, potatoes, cream toast, bread and butter, milk and coffee. Her temperature has never been over 99° F. nor under 98° F. since the operation. Her bowels act naturally every day. The abdominal stitches were removed on the ninth day. On February 8, before the operation, she weighed 93½ lbs. March 25, she weighed 110 lbs., April 15, 118 lbs.; and April 27, 122 lbs. She was able to leave the hospital April 10. She had no pain at any time and required no anodynes.

I have succeeded in collecting 25 published op-

erations. Many of these are by Prof. Loreta. I had hoped to have obtained the results in all his cases, but Dr. Peruzzi, his chief assistant, replies to a letter of inquiry that the Professor has performed in all about 30 operations, and that at least 6 more have been performed by other Italian surgeons. They were all successful when the diagnosis was correct. This would make the total number of operations about 45. The 25 operations included in my list were performed on 24 patients, one patient having been operated on twice successfully by Prof. Loreta. From the 25 operations there were 15 recoveries and 10 deaths, making a mortality rate of 40 per cent. Of the 10 deaths, 6 were due to shock, 2 to hæmorrhage, 1 to tetanus and 1 to suppression of urine. The large mortality from shock in an abdominal section performed in from half an hour to an hour, is probably due to the fact that in this, as in most new surgical procedures, the operation is postponed too long. The mortality is already decreasing. Of the first 12 cases reported, 6 recovered and 6 died; while of the last twelve, 9 recovered and 3 died. This mortality can perhaps be still further lessened by earlier diagnosis and operation, and by such methods of operation as are most quickly performed and accompanied by the minimum loss of blood.

Diagnosis.—The diagnosis can be conveniently divided into two parts: 1, to determine the existence of pyloric obstruction, and 2, to differentiate between obstruction caused by cancer and that caused by cicatricial stenosis. But few of the reported cases has such a typical history as the one I have related. The co-existence of dyspeptic symptoms or of some still open ulcers complicated the diagnosis in most of the cases. I should regard as of little value some of the symptoms upon which much stress has been laid. The material vomited in some cases consisted of partly digested food, in some it was wholly undigested and offensive, while in others it consisted of well-elaborated chyme. The character of the material indicates the health and physiological activity of the stomach, but throws little light upon the condition of the pylorus. In some cases sarcinæ were present, but in many they were absent. The same may be said of starch granules, of needles of the fatty acids, of free hydrochloric acid, of pain and of other dyspeptic symptoms, which have usually existed for many years before the symptoms of obstruction occurred.

The following symptoms I would consider of value: 1. A greatly dilated stomach; 2. The vomiting of from one to two quarts of material at one time; 3. The recognition in the vomited matter of articles that have been taken many hours, days or weeks before; 4. When the act of vomiting is performed with great ease, without nausea, and the appetite is good immediately afterwards; 5. Obstinate constipation; 6. The non-effect

of ordinary purgatives; 7. A preceding history of gastric ulcer of several years' duration and temporary improvement followed by simple obstructive vomiting of well-elaborated chyme many

placed upon the detection of a decidedly enlarged stomach as this is rare, except as a result of mechanical obstruction of the pylorus.

The mere presence of tumor is almost without value in the differential diagnosis between cancer and stenosis. In the 24 cases tumor was present in 7, absent in 4, not noted in 13. A rapidly growing nodulated tumor low down in the abdomen is probably malignant. A poorly-defined tumor, not increasing in size, high in the abdominal cavity is probably non-malignant. The average duration of cancer of the pylorus is one year (Brinton); the maximum duration three years (Bartholow). The average duration of the gastric symptom in 13 of the 24 cases in which this is noted was eleven years. The history of temporary improvement is against malignant disease. In the latter stages of cancer the obstruction is often removed by ulceration and diarrhea occurs. In the later stages of ulcer the obstruction increases and the stenosis is more obstinate.

The Abdominal Incision.—In all of the reported cases but two methods of opening the abdomen have been used. One by an incision running from 1 inch below the ensiform cartilage to the extremity of the 9th rib on the right side, a distance of about 6 inches; the other by an incision in the median line between the ensiform cartilage and umbilicus, and from 3 to 6 inches in length. The first method was used by Loreta in his earlier cases, but he now uses the latter exclusively.

The stomach wound should be made far enough from the pylorus to be in healthy tissue. If some inches from the pylorus it will be outside the zone of inflammation following the dilatation. Experimenting upon cadavers I found that separation of my fingers more than an inch caused rupture of the mucous membrane.

The stomach wound has been closed in many ways and all did well. In no case was there the slightest leakage. No case suffered from peritonitis and in none was the stomach wound the cause of death. I would suggest that probably the best method would be a continuous suture of catgut to the mucous membrane and the suture of Appollito to the peritoneum.

Diet.—In some of the reported cases food has been given as early as a few hours after the operation, without injury. I delayed until the fourth day, although I see no reason why food should not be given earlier. Peptonized milk, animal broths, diluted wines, and the yolks of eggs would be the best articles, according to the condition of the stomach prior to operation. Rectal alimentation will be required until sufficient food can be given by the mouth. Solid food has rarely been given before the tenth day and then sparingly.

Permanency of Cure.—Recontraction of the cicatricial tissue would naturally be feared, but Loreta, in January, 1885, nearly three years after his first

OPERATIONS OF DIGITAL DIVULSION OF THE PYLORUS FOR CICCITRICAL STENOSIS.

Case	Operator	Residence	Date	Age	Sex	Duration of Disease	Tumor	Abdominal Incision	Result	Authority
1	Loreta	Bologna	Sept. 14, 1882	47	Male	20 years	Tumor	Edge ribs	Cure, 5 mos. after in perfect health	Mem. Acad. Sci., Bologna
2	"	"	Dec. 22, 1882	48	Male	7 "	None	"	Cure	Rivog. Med., 1883, p. 117
3	Gionmi	Cezena	Feb. 1, 1883	Female	"	"	"	"	Death in 12 hours	Did
4	Loreta	Bologna	March 17, 1883	46	Male	17 years	"	Edge ribs	Death in 17 hours	Rivog. Iltore, March 30, 1883
5	"	"	July 15, 1883	31	Female	"	"	"	Cure	Lancet, Sept. 1, 1883, p. 379
6	Frattini	Venice	June 9, 1884	"	"	"	"	"	Cure	Gaz. d'Ospe., 1884, p. 392
7	Loreta	Bologna	March 9, 1885	26	Female	"	Tumor	Median	Cure	Bull. d'I. Sci. Med., '85, p. 137
8	"	"	"	"	"	"	"	"	Death, shock	Med. News Phila., '85, p. 1876
9	"	"	"	"	"	"	"	"	Death, shock	"
10	"	"	"	"	"	"	"	"	Death, hemorrhage	"
11	"	"	"	"	"	"	"	"	Death, hemorrhage	"
12	McLuney	New York	July 6, 1885	39	Female	20 years	Tumor	Edge ribs	Death, 30 hours. Supplies and urine	Annals Surgery, 1886, p. 372
13	"	"	July 6, 1885	52	Female	39 "	"	"	Death, 30 hours	Annals Surgery, 1886, p. 372
14	Loreta	Bologna	March 9, 1886	51	Female	5 years	None	Median	Cure, well March 30, 1888	La Riforma Med., 1886, p. 259
15	Huggard	England	March 16, 1886	33	Male	"	None	"	Death, 10th day, hemorrhage	Bull. Med. Jour., Feb. 10, 1887
16	Loreta	Bologna	May 22, 1887	38	Male	1 year	Tumor	Median	Death, 4th day, exhaustion	Joint Am. Med. Assoc., 1887, p. 548
17	Barton	Philadelphia	Sept. 14, 1887	47	Female	7 years	"	"	Death, tetanus 5th day	Gaz. d'Ospe., Milan, '87, p. 803
18	Loreta	Bologna	Oct. 13, 1887	35	Female	5 "	"	"	Cure	"
19	"	"	Oct. 31, 1887	34	Male	10 "	"	"	Cure	"
20	"	"	Dec. 1, 1887	"	"	"	"	"	Cure	"
21	Treves	London	Jan. 30, 1888	54	Male	15 years	Tumor	Median	Cure, recontracted	Lancet, Feb. 18, '88, p. 336
22	Loreta	Bologna	June 20, 1888	54	Male	15 "	"	"	Cure, same patient, reoperation	Gaz. d'Ospe., 1888, p. 618
23	"	"	June 11, 1888	38	Male	20 mos.	None	Edge ribs	Cure, better from Dr. Bull	"
24	Bull	New York	Feb. 10, 1889	45	Female	5 years	Tumor	Median	Cure	"
25	Barton	Philadelphia	"	"	"	"	"	"	"	"

Letter to Dr. Harris stating that to Nov. 30, 1888, he had had 4 cases, of which 5 were cured and 1 died, 3 from shock and 1 from hemorrhage

hours after taking food. This typical history occurred but twice among the 24 cases. When the symptoms are obscure great reliance may be

operation, writes, "I have now operated on 6 cases. They all have recovered, and all remain well up to the present time." Haggard, in 1888, reports that the case he operated on two years before was "still perfectly well, no vomiting, dilatation of stomach less, and she has recently married." Peruzzi, in his letter to me, March 22, 1889, states that he knows of only one relapse among the 30 cases upon which Prof. Loreta has operated. This patient was re-operated upon, recovered, and remained well.

In one of the fatal cases included in the list the obstruction was valvular, due to irregular contraction of the walls of the stomach. In another case, not included in the list as the stomach was not opened, the valvular obstruction was caused by distortion produced by external adhesions. These were divided and the patient made a good recovery. In another case, not included in the list, the operator recognizing that he had badly ruptured the mucous membrane while stretching the pylorus, immediately performed pylorotomy, with recovery of the patient. In another case the obstruction was caused by an adherent pancreas. The cause of the adhesion was an ulcer starting in the posterior wall of the stomach and penetrating the pancreas. In this case an incision about 2 inches in length was made from stomach to duodenum, passing through the pylorus. The two extremities of the wound were brought in contact and the wound sewed up at right angles to its position when made. When completed it was parallel to the long axis of the body. This patient recovered after a serious illness.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

SIXTH PAPER.

PREVALENCE—METEOROLOGY.

The relations existing between meteorological conditions and pneumonic fever are of the most interesting nature, and many and various are the rules and laws relating thereto that have been formulated by systematic writers, but the exceptions to them are so numerous and important that they are greatly weakened or rendered entirely nugatory.

It may be affirmed, as a general proposition,¹ that pneumonic fever will be found to prevail to a greater extent than ordinarily, the influence of season and epidemics excepted, when the daily range of temperature,² humidity of the atmos-

phere,³ velocity of the wind,⁴ range of barometer,⁵ amount of atmospheric pressure⁶ and amount of ozone⁷ present in the air are greater than the average, and that it will be less prevalent when opposite conditions prevail. Again, it will be found that an excess of cases will be met with when the range of temperature is low,⁸ the barometer falling⁹ and the ground water low.¹⁰

That a sudden and marked fall of the thermometer is apt to be followed by an excessive prevalence of pneumonic fever has always been recognized, but it is not at all clear how an excess of moisture can have, *per se*, any deleterious effects upon the lungs, and the proposition has been controverted by a large number of observers.¹¹ If, however, as is claimed by many, the air which, *par excellence*, is connected with the prevalences of pneumonic fever is a dry, cold one, the explanation offered by Baker¹² is at least plausible:

"If, as is believed, the air is exhaled from the lungs at nearly a uniform temperature throughout the year, and is saturated, or nearly saturated, with the vapor of water, the cold air of winter must, because of the small quantity of vapor which it contains, take from the lungs and air-passages a much greater quantity of vapor than does the warm, moist air of summer; and thus its drying and irritating effects must be much greater."

In this connection it must be remembered that during the season when pneumonic fever is rife a very large proportion of the population is cooped up in heated rooms and habitually breathe a dessicating atmosphere surcharged with carbonic acid gas.

In every locality certain winds are more likely to be followed by pneumonic fever than others. Those from the North are particularly injurious in New York,¹³ Stockholm¹⁴, on the Spanish and Ital-

Weeklb. voor Geneesk., 1855, Nr. 22-23; Rigler, Wiener Med. Wochenschr., 1858, S. 834; *et al.*

¹Baker, Proc. Mich. St. Bd. Health, Oct. 1, 1886; Seibert, *op. cit.*; Sanders, Am. Jour. Med. Sci., July, 1882, p. 88; Blodgett, Climatology of the U. S., Phila., 1857; Loomis, Am. Jour. Med. Sci., Jan., 1882; Storer, Sanitarian, Apr. 19, 1883.

²Thomas, Handb. d. Kinderkrankh., Bd. iii, S. 597; Baker, *op. cit.*, p. 7; Sturges, Nat. Hist. Pneumonia, p. 156; Huss, *op. cit.*, S. 35; Seibert, *op. cit.*; Green, Quain's Dic. Med., p. 874; Cruvelhier, Path. Anat., Hourmann et Dechambre, Arch. Gén. de Méd., T. xiii.

³Blach, *op. cit.*; Seibert, *op. cit.*; Baker, *op. cit.*; Masson, Am. Jour. Med. Sci., Jan., 1883, p. 261; Sanders, *op. cit.*

⁴Juergensen, Ziemssen's Handb., Bd. v, S. 17.

⁵Baker, *op. cit.*; Jones, Dublin Jour. Med. Sci., Feb. 1868; Draper, N. Y. Med. Rec., Sept. 19, 1885, p. 326; Seitz, Catarrh and Influenza, 1865; Masson, Inaug. Dissert., Bern, 1870. That ozone has any influence over the prevalence of the disease is denied by Ireland, Edinb. Med. and Surg. Jour., July, 1862, and Baldwin, Ohio Med. Recorder, Apr. 1878. Lépine, Pneumonie, Wien., 1883, S. 30, says that ozone is not a factor.

⁶Bateman, Diseases of London, 1810, p. 234; Van Bibber, Jour. Am. Med. Assn., July 28, 1888, p. 111; Schützenberger, Gaz. Méd. de Strassb., 1856, No. 2; *et al.*

⁷Seibert, *op. cit.*; Masson, *op. cit.*

⁸Purjesz, Wiener Med. Wochenschr., 1884, S. 43; Juergensen, Berliner klin. Wochenschr., 1884, Nr. 17; Morehead, Diseases of India, Vol. ii, p. 308.

⁹Barton, Quoted by LaRoche, Pneumonia, p. 347; Tyndale, Sanitarian, May 31, 1883, p. 342; Hirsch, *op. cit.*, S. 32; Masson, *op. cit.*

¹⁰Mich. Bd. Health Rpt., 1880, p. 449.

¹¹Seibert, *op. cit.*

¹²Huss, *op. cit.*

¹To which there are many exceptions.

²Blach, Am. Jour. Med. Sci., Jan. 1883, p. 261; Seibert, Am. Jour. Med. Sci., Jan., 1882; Berliner klin. Wochenschr., 1884, S. 204; N. Y. Med. Rec., May 30, 1888, p. 608; Hirsch, Hist. Geog. Path., Bd. ii, S. 8; Huss, Lungenentzündung, Leipzig, 1861, S. 68; Baker, Report Mich. Bd. Health, 1880, p. 445; Frank, Prax. Med. Lipsce, 1823, Lib. ii, p. 311; Howard, N. C. Med. Jour., 1850 and 1860; DeBordes, Nederl.

ian¹⁵ coast, Quito,¹⁶ England,¹⁷ Cayenne,¹⁸ and other places. North-west winds are the most deleterious in the Interior Valley of North America,¹⁹ Germany,²⁰ Marseilles,²¹ etc., and the East wind in the Levant.²²

Seibert,²³ in analyzing 600 cases, found that the barometer was falling in 461 and rising in 139. It was below the mean in 352. The temperature was below 50° F. in 506. The wind was northerly in 302 and north-westerly in 200, and the velocity more than 15 miles per hour in 406. In 550 the air was cold and moist.

There can be no doubt as to the important rôle played by meteorology in preparing either the soil²⁴ or the seed—or both—of pneumonic fever, but after examining an immense amount of facts relating to this point I am compelled to confess, with Sturges,²⁵ that I have been unable to come to any satisfactory conclusions.²⁶

CLIMATE.

Climate has always been regarded as being intimately associated with the prevalence of pneumonic fever, although the facts at our disposal do not enable us to indicate with certainty the varieties of climate which are most or least prone to influence the prevalence of the disease.

Upon this subject writers have entertained many and diverse views: Laennec was of the opinion that, in general, pneumonic fever is a disease of cold climates, and this view has been shared by others.²⁷ Saunders²⁸ considers it most frequent in warm countries, whilst others maintain that it can not be shown that the disease is absolutely more prevalent in one climate than another.³⁰

Although pneumonic fever prevails very extensively upon raw and unprotected coasts and in localities³² which suffer from marked atmospheric vicissitudes, yet it does not appear that the rigorous climate of polar regions is accompanied by as great a prevalence as milder parts. Thus in Parry's northern expedition the men were sometimes exposed—in emerging from their quarters—to a

sudden change of temperature of from 80° to 120° F., yet no cases of the disease occurred.³¹ It is possible that a prolonged sojourn in Arctic regions may predispose to this and other pulmonary disorders upon a return to temperate climates.³³

Ever since Forry³⁴ first promulgated his theory "that in proportion as the high temperature of summer makes an impression upon the system do the lungs become susceptible to the morbid agency of the opposite season" and attempted to prove that this disease prevails most extensively in warm climates, this view has had many adherents.³⁵ Examining the facts adduced by Forry, Sanders³⁶ and others in support of the proposition it must be conceded that they are forcible and appropriate, yet when we cast our eyes over a more extensive field the puzzle becomes more complex—perhaps insoluble.³⁷ When we see localities having similar climates with widely divergent rates of prevalence, or several places with the same rates presenting opposite climatic conditions, it is evident that climate alone is not the ruling factor in the distribution of pneumonic fever.³⁸

SEASON.

It is the custom of writers³⁹ to say that in the northern hemisphere, pneumonic fever prevails very much more extensively in winter and spring than during the summer and autumn months, and this seems to be the only legitimate conclusion if we consult only mortality reports, but if we look at clinical reports as well we may hesitate to accept this dictum. The facts are clearly shown in the following tables.⁴⁰

During a series of 24 years there were treated in the Vienna General Hospital 12,104 cases of pneumonic fever, and of these 64 per cent. were admitted during the six cold, and 36 per cent. in the six warm months. Of 395 cases admitted into

³¹ In California the disease is noticed oftenest upon the sea-coast and the mountains, where the air is cold and moist, whilst it is extremely infrequent in the warmer interior valleys where extreme vicissitudes of temperature are rare. Tyrrell, Rpt. St. Bd. Health, 1886, p. 65.

³² Parry's Northern Expeditions.

³³ See the experiences of the ships "North Star" and "Corwin." Rosse, Cruise of the Corwin, Wash., 1883, p. 12.

³⁴ Climate of the U. S., p. 240.

³⁵ See Lee, Copeland's Med. Dic., Vol. ii, p. 800; Drake, Dis. Int. Val. N. A., Vol. ii, p. 852; Eliot, Prac. Med., 3d Ed., p. 181; Rosse, op. cit., pp. 12-27; Loonis, Prac. Med., N. Y., 1884; Davis, Prac. Med., Chicago, 1884; Fossangrue, Dic. de Méd., T. xviii.

³⁶ Am. Jour. Med. Sci., July, 1882.

³⁷ See tables 9 to 12.

³⁸ For further information consult Rochard, Dic. de Méd., 1868, T. viii, art. Climate; Feuillet, La Phthisie en Algérie, 1874; Boudin, Geog. Méd. Paris.

³⁹ Hippocrates, Aph., Sec. iii, Aretæus, De Caus. et Sig. Acut. Morb., Lib. i, cap. x; Hirsch, Hist. Geog. Path., Bd. ii, S. 25; Lebert, Handb. d. Prakt. Med., Tibb., 1859, Bd. ii, S. 64; Sturges, Nat. Hist. Pneumonia p. 100; Morehead, Dis. India, p. 300; Huss, Lungenentzündung, Leipzig, 1861; Wunderlich, Allgem. Path. u. Therap., Bd. iii, S. 304; Ziemssen, Pleuritis und Pneumonie, Berlin, 1862, S. 157; Hamerik, Cholera Epidem., Prag, 1850; Grisolle, Traité de la Pneumonie, Paris, 1841; Roth, Würzburger Med. Zeitschr., 1850; Fox, Reynolds's Syst. Med., Phil., 1880, Vol. ii, p. 155; Bamberger, Wiener med. Wochenschr., 1857; Swett, Diseases Chest, N. Y., 1854, p. 80; Janeway, Phila. Med. News, Dec. 8, 1885, p. 634; Williams, Cycl. Prac. Med., Vol. iii, Andral, Clin. Med., Vol. ii, Peacock, St. Thomas's Hospit. Rpts., Vol. v, p. 5; Sibson, Med. Chir. Rev., 1858, p. 23, et al.

⁴⁰ The material for table 13 was obtained from a great number of registration reports—references to each of which would serve no useful purpose.

¹⁵ Hirsch, op. cit., S. 35.

¹⁶ Chisholm, Dis. Tropical Countries, London, 1822.

¹⁷ Sturges, op. cit., p. 156.

¹⁸ Hirsch, l. c., S. 35.

¹⁹ Drake, Dis. Int. Valley N. A., Cin., 1850.

²⁰ Hirsch, l. c.

²¹ Gibbs, U. S. Naval Rpts., 1881, p. 410.

²² Hirsch, op. cit.

²³ Am. Jour. Med. Sci., Jan. 1882.

²⁴ Rokitsansky, Path. Anat., Phila., 1855, Vol. iv, p. 75; Seibert, N. Y. Med. Rec., May 30, 1883, p. 608.

²⁵ St. George's Hospital Rpts., Vol. v, 1870, Art. x.

²⁶ On account of the diffuse and contradictory nature of my material its presentation is omitted.

²⁷ Traité de l'Auscultation Méd., Paris, 1819.

²⁸ Chomel, Pneumonie, Leipzig, 1841, S. 312; Annesly, Diseases of India, Copeland, Med. Dic., Vol. ii, p. 891; Lombard, Traité de Climatolog., p. 391.

²⁹ Am. Jour. Med. Sci., July, 1882.

³⁰ Ziemssen, Prager Vierteljahrschr., 1858; Hirsch, Hist. Geog. Path., Erlangen, 1864, Bd. ii, S. 20; Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Bd. v, S. 13; Sturges, Pneumonia, London, 1876, p. 161, et al.

For further information consult Eberle, Prac. Med., Phila., 1831, Vol. i, p. 281; Huss, Lungenentzündung, Leipzig, 1861, S. 3; Weller, Züricher Diss., 1854, S. 25; Saville, London Lancet, 1857, Vol. ii, p. 607; Forry, Climate of the U. S., p. 359; Jour. Am. Med. Assn., vol. v, p. 9.

TABLE XIII.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY MONTHS AND SEASONS.
685,566 fatal cases.

COLD MONTHS.				WARM MONTHS.			
Season.	Month.	Cases.	%	Season.	Month.	Cases.	%
234,068 cases 34.2 per ct	Winter, Dec. . . .	65,667	9.6	80,731 cases 13.1 per ct.	Summer, June. . .	38,861	5.7
	January . . .	83,151	12.1		July. . . .	26,059	3.8
	Feb'y . . .	86,090	12.5		August . .	24,811	3.6
245,373 cases 35.9 per ct.	Spring, March. . .	80,662	13.0	Autumn, Sept. . . .	27,183	4.0	
	April . . .	89,282	13.0		115,554 cases October. . .	38,111	5.7
	May. . . .	67,028	9.9		17 per ct. Nov. . . .	50,260	7.3
Total for Cold Mos. . .		480,281	70.0	Total for Warm Mos. . .		205,255	30.0

the Hôtel Dieu from 1831-39, 227 occurred in winter, and 168 in summer. Epidemics have generally occurred in winter and spring.

The inference to be drawn from these statistics is that pneumonic fever is markedly more fatal in winter and spring than during the warmer months, but the material at hand is too meager to statistically settle the point.⁵⁹

TABLE XIV.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY MONTHS AND SEASON.

Season.		Winter.		Spring.		Summer.		Autumn.	
Cases.	Per cent.	Month.	Per cent.	Month.	Per cent.	Month.	Per cent.	Month.	Per cent.
19,225 cases.	AUTHORITY.	Dec.	5.3	Jan.	5.2	Feb.	5.4	Mar.	7.2
		Jan.	5.2	Feb.	5.4	Mar.	7.2	Apr.	13.3
		Feb.	5.4	Mar.	7.2	Apr.	13.3	May.	13.3
		Mar.	7.2	Apr.	13.3	May.	13.3	June.	8.6
		Apr.	13.3	May.	13.3	June.	8.6	July.	6.8
		May.	13.3	June.	8.6	July.	6.8	Aug.	8.2
		June.	8.6	July.	6.8	Aug.	8.2	Sept.	8.4
		July.	6.8	Aug.	8.2	Sept.	8.4	Oct.	8.4
		Aug.	8.2	Sept.	8.4	Oct.	8.4	Nov.	10.9
		Sept.	8.4	Oct.	8.4	Nov.	10.9		
		Oct.	8.4	Nov.	10.9				
		Nov.	10.9						
528 cases.	AUTHORITY.	Dec.	5.3	Jan.	5.2	Feb.	5.4	Mar.	7.2
		Jan.	5.2	Feb.	5.4	Mar.	7.2	Apr.	13.3
		Feb.	5.4	Mar.	7.2	Apr.	13.3	May.	13.3
		Mar.	7.2	Apr.	13.3	May.	13.3	June.	8.6
		Apr.	13.3	May.	13.3	June.	8.6	July.	6.8
		May.	13.3	June.	8.6	July.	6.8	Aug.	8.2
		June.	8.6	July.	6.8	Aug.	8.2	Sept.	8.4
		July.	6.8	Aug.	8.2	Sept.	8.4	Oct.	8.4
		Aug.	8.2	Sept.	8.4	Oct.	8.4	Nov.	10.9
		Sept.	8.4	Oct.	8.4	Nov.	10.9		
		Oct.	8.4	Nov.	10.9				
		Nov.	10.9						

- ⁴⁰ Berichte
⁴¹ Private records.
⁴² Pneumonie u. Pleuritis. Tübingen, 1880.
⁴³ Wiener med. Wochenschr., 1857, S. 897.
⁴⁴ Pneumonie, Leipzig, 1841, S. 341.
⁴⁵ N. Y. Med. Record, March 28, 1885, p. 343.
⁴⁶ Am. Jour. Med. Sci., January, 1861, p. 25.
⁴⁷ Pulvemacher, Lungenentzündung, Berlin.
⁴⁸ Inaug. Diss., Erlangen, 1852, S. 27.
⁴⁹ Am. Jour. Med. Sci., Vol. XIV.
⁵⁰ Traité de la Pneumonie, p. 137.
⁵¹ Lungenentzündung, S. 6.
⁵² Lungenentzündung, Leipzig, 1864, S. 67.
⁵³ Wiener med. Wochenschr., 1858, S. 534.
⁵⁴ Hermann, op. cit.
⁵⁵ Inaug. Diss., Zürich, 1854, S. 41.
⁵⁶ Inaug. Diss., Rostock, 1862.
⁵⁷ Pleuritis u. Pneumonie, Berlin, 1862, S. 157.

TABLE XV.—SHOWING PREVALENCE OF PNEUMONIC FEVER IN ADULTS AND CHILDREN BY MONTHS AND SEASON.

Month and season.	Ziemssen, 526.				Author, 498.				Combined, 1,024.			
	Adults.		Children.		Adults.		Children.		Adults.		Children.	
	Cases.	%	Cases.	%	Cases.	%	Cases.	%	Cases.	%	Cases.	%
January . . .	25	8.2	28	12.6	30	9.4	22	12.3	55	8.8	50	12.4
February . .	40	13.1	22	9.9	42	12.4	14	7.9	84	12.8	36	9.0
March	54	17.8	15	6.8	48	14.5	20	11.1	102	16.3	35	8.7
April	32	10.5	25	10.3	41	13.9	30	17.0	71	12.2	58	13.2
May	23	7.5	22	9.9	19	3.1	16	8.9	35	5.3	38	9.4
June	11	3.6	24	10.8	6	1.9	6	3.4	17	2.7	30	7.5
July	18	6.0	24	10.1	7	2.2	7	3.9	24	4.0	31	7.7
August	14	4.6	10	4.5	16	3.1	8	4.5	24	3.8	18	4.5
September . .	8	2.6	13	5.9	22	6.9	6	3.3	28	4.5	19	4.7
October	10	3.2	9	4.0	34	10.6	8	4.5	44	7.0	17	4.2
November . . .	27	8.9	12	5.4	42	13.1	16	9.0	69	11.0	28	5.0
December . . .	41	14.4	29	9.0	26	8.1	26	14.5	70	11.2	46	11.4
Winter	169	35.8	70	31.5	96	30.1	62	34.9	205	33.9	132	32.9
Spring	169	35.8	66	2.7	102	31.9	66	36.9	211	33.8	126	31.4
Summer	43	14.1	58	26.1	23	7.3	21	11.7	65	10.3	79	19.7
Autumn	45	14.3	34	15.4	98	30.7	39	16.4	143	23.0	64	16.0
Total	304	100.0	222	100.0	319	100.0	179	100.0	623	100.0	401	100.0

TABLE XVI.—SHOWING COMPARATIVE PREVALENCE OF PNEUMONIC FEVER BY MONTHS AND SEASONS.⁶⁰

Season.	Winter.				Spring.				Summer.				Autumn.			
Month.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Internal Dis. . . .	35,711	13,841	15,776	19,999	27,058	39,685	49,066	62,588	54,331	23,941	14,591	12,501	35,711	13,841	15,776	19,999
Pneumonic Fever.	396	41	31	58	60	57	33	23	14	17	8	20	34	34	34	34
Per cent	100.0	3.0	2.0	3.6	2.2	1.4	1.0	0.5	2	3	3	1.4	2.8	2.8	2.8	2.8

⁶⁰ See Hermann, op. cit.

The influence of season over the prevalence of the disease varies considerably in different years and localities,⁶⁰ due no doubt to local and temporary influence. Race, sex, age, etc., influence slightly, if at all, the seasonal prevalences of pneumonic fever. The influence of age is shown in table xv.

At certain periods pneumonic fever forms a greater portion of the total morbidity than at others as shown in table xvi.

VAGINAL HYSTERECTOMY FOR CANCER.

A CONTRIBUTION TO THE STATISTICS OF THE OPERATION.

BY DOCENT DR. VACLAV RUBESKA,

OF PRAG.

[Translated by ARCHIBALD CHURCH, M.D.]

The justifiability of the above operation is even yet at times the subject of debate, but if the consensus of opinion is to the effect that complete, early removal of cancer in other localities gives the patient the best, if not the only chance for recovery, application of the same conclusion to the uterine variety seems to furnish a sound foundation for hysterectomy. The remarkable experience of Dr. Rubeska in the gynecological clinic of the Bohemian University at Prag, now for the first time published, adds much strength to this

position. Brief notes of all his cases, extending over four years, were placed in the writer's hands. Twenty-seven cases of vaginal hysterectomy for cancer without a death from the operation speaks in no uncertain terms and needs no comment.

No peculiar mode of operation was employed excepting that the stumps of the broad ligaments were drawn well into the vagina and stitched to its walls. The reason for this procedure, upon which Dr. Rubeska strongly insists, is that a recurrence of the neoplasm, by extension or otherwise, naturally occurring in these structures, will be, when this step is taken, within the range of observation and the field of subsequent operative treatment. Ovaries and tubes were not removed unless diseased. In the first three cases iodoform gauze was used for drainage, but later the peritoneum was closed and no drainage whatever employed. In other respects the operation did not differ materially from the Czerny-Schreder method, though usually the uterus was delivered without being inverted. The cases were not selected in any sense of the word, and in one case a radical operation was impossible owing to the extensive infiltration of the surrounding structures. Almost without exception the patients were of the poorest class, making it often impossible to keep in view the subsequent course of events. Antiseptic precautions were carried out in their detail, but the

VAGINAL HYSTERECTOMY FOR CANCER

Case No.	NAME.	Age.	Location of Growth	Date of Operation	COURSE MORE	Condition of Patient July 1, 1888.
1	Teressa V.	48	C. corporis uteri.	Sept. 25, 1884.	Quickly recovered from operation.	Is still well.
2	Marie S.	35	C. cervicis uteri.	Nov. 2, 1885.	Recurrence of disease in three months, and death six months after operation.	
3	Teressa H.	36	C. cervicis uteri.	Nov. 6, 1885.	Was discharged well and lost sight of.	Unknown.
4	Barbara N.	42	C. corporis uteri.	Nov. 17, 1885.	Discharged well and lost sight of.	Unknown.
5	Teressa M.	43	C. cervicis uteri.	Nov. 30, 1885.	Discharged well and lost sight of.	Unknown.
6	Anna A.	41	C. portionis vaginalis.	April 2, 1886.	Discharged well, but died from recurrence of disease in the vaginal wall at a distance from the cicatrix, which remained intact.	
7	Madalane K.	38		April 9, 1886.	Discharged well and lost sight of.	Unknown.
8	Eleuora H.	63	C. corporis uteri.	May 18, 1886.	Discharged well; died six months later of pneumonia, without recurrence.	
9	Anna F.	47	C. cervicis uteri.	June 6, 1886.	Discharged well and lost sight of.	Unknown.
10	Barbara S.	53	C. corporis uteri.	Aug. 9, 1886.	Discharged well.	Remains well.
11	Alvira N.	54	C. cervicis uteri.	Aug. 18, 1886.	A small urethro-vaginal fistula resulted, but closed spontaneously.	Remains well.
12	Frances S.	48		Aug. 26, 1886.	Discharged well.	Unknown.
13	Rosalie T.	34	C. port vaginalis.	Nov. 28, 1886.	Discharged well.	Remains well.
14	Katerina K.	34	C. cervicis uteri.	Dec. 18, 1886.	Discharged well.	Unknown.
15	Amanda R.	52		Jan. 31, 1887.	Discharged well. Died of empyema April 28, 1887. Post-mortem the cicatrix was entirely free from carcinoma.	
16	Teressa K.	41	C. port vaginalis.	March 30, 1887.	Discharged well.	Unknown.
17	Anna P.	38		May 28, 1887.	Discharged well.	Unknown.
18	Anna B.	53		June 4, 1887.	Discharged well.	Unknown.
19	C. R.	34		June 26, 1887.	Discharged well. Operated in small country house.	Remains well.
20	Anna S.	41		July 2, 1887.	Discharged well.	Recurrence of growth.
21	Marie M.	58		July 3, 1887.	Thrombosis of crural and uterine veins. Died from recurrence of growth April 21, 1888.	
22	Marie L.	50		July 20, 1887.	Discharged well.	Remains well.
23	Frances B.	48		Aug. 16, 1887.	Operation not radical as parametrium was widely infiltrated. Left urethro-vaginal fistula.	Recurrence of growth.
24	Teressa F.	56	C. corporis uteri.	Aug. 18, 1887.	Discharged well.	Remains well.
25	Marie Z.	60	C. port vaginalis.	Aug. 28, 1887.	Discharged well.	Remains well.
26	Marie C.	59	C. cervicis uteri.	Feb. 23, 1888.	Hæmaturia after operation. Discharged well.	Remains well.
27	Katerina K.	42		April 25, 1888.	Discharged well.	Remains well.

⁵⁹ See Huss, *Lungenentzündung*, S. 87; see also Folkmann *Inaug. Diss.*, Erlangen, 1847, S. 9.

⁶⁰ See Coolidge, *Statist. U. S. Army*, 1839-1855.

clinic being in a portion of the general hospital, an old building leaving much to be desired from a hygienic point of view, the circumstances were

not the most favorable, and one operation was done in a small country house.

Whenever doubt existed as to the diagnosis, and as a rule, microscopical examination of the growth was made.

Of the seventeen cases treated to July 1, 1888, ten remained well after periods of 46, 23, 23, 18, 13, 12, 11, 11, 4, and 3 months respectively. Three died with recurrent cancer; two presented a recede on that date; and two had died from other diseases without any recurrence of the growth whatever. (For tabulated list see p. 805.)

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MEDICAL PROGRESS.

VERTIGO OF THE STOMACH CONSIDERED OF TOXIC ORIGIN.—M. BOVET has made two kinds of investigations. First, an examination of the urine of dyspeptics affected with vertigo. Second, an analysis of the gas of the belchings so frequent at a certain stage of digestion with patients afflicted with vertigo. It is necessary to fix precisely the moment when the gaseous products are collected, for their nature differs essentially according as they form a short time after eating or from five to six hours afterwards. If the first is the case nitrogen and carbonic acid are the chief ingredients; if the latter hydrogen sulphide often is added, and sometimes an ingredient of a sulphocyanic nature, which Bovet found again as sulphocyanic acid in the urine; he thinks that this toxic product acts upon the medulla and determines the phenomenon of vertigo. Poisoning with the derivatives of cyanide produces vertigo and tingling of the ears, symptoms which are often found in dyspeptic patients. There is, consequently, good reason to believe that these organic poisons which were discovered in excess fourteen times out of the seventeen analyses of urine which Bovet made, and five times in those of the stomach gases, constitute the cause of vertigo.

Does this mean that the cyanide compound, which in its nature would be ethylaceto cyanhydric acid, a substance originating from the reduction by dehydration of ethyldiacetic acid and from the derivatives of cyanide in the urine is alone to blame? Bovet does not think so, as other substances equally poisonous were found in the urine, such as oxybutyric acid B, which originates from acetic acid, crotonic acid, diacetic acid, ethylacetic acid, and acetone, and which was discovered in certain conditions of diabetes by Külz and Minkowsky. Lépine (Lyon) even ascribes to it the coma in diabetes. It is, therefore, possible that vertigo of the stomach is due to the presence in the organism of one of these two acids, or perhaps to the presence of some other acid of the

same kind, for through Gehhardt's reaction the same red coloring is obtained for all these substances derived from one another. As to the sulphocyanic acids and the ethylaceto cyanhydric acid in the urine of vertigo patients Bovet was able to prove after distillation the mixed reaction of these two substances which, moreover, had a distinct smell of prussic acid. Although making certain reserves regarding the nature proper of the acid found in the urines, or in the alkaline solution in which Bovet collected the gases from the stomach, he thinks that this acid acts by intoxication. For inasmuch as it belongs to the hydrocyanic or butyric series, its toxic power is the same and, consequently, its effects are identical. More investigations will be necessary to elucidate this point.—*La Semaine Médicale*, No. 18, 1889.

CONTAGIOUS CHARACTER AND TRANFERABILITY OF CANCER BY INOCULATION.—DR. ARNAUDET has published the statistics of a district in La Normandie afflicted with cancer, from which he draws the following conclusions:

1. Cancer prevailed with excessive intensity in this part of La Normandie; there exists consequently a local cause.

2. Clinical results justify the declaration that carcinoma is infectious and may be transmitted from one individual to another.

3. As in typhoid fever, so in cancer, the water is ordinarily the vehicle of the characteristic microbe, in our district probably the cider.

4. All water coming from pools, and all impure water in general should be excluded from the fabrication of cider.

5. Our knowledge of this disease makes it our duty to destroy as far as possible all morbid products of our sick (vomited matter of cancer patients, sputa of patients with phthisis, stools of typhoid patients, etc.) Where a more powerful antiseptic is lacking, boiling water is always obtainable.

Arnaudet makes these observations: The specific microbe has not yet been found, and experiments on animals have not led to any positive results. Experiments on man can neither be excused nor advised, but it is well to remember the case of the famous dermatologist Alibert, an opponent of contagion, who died from cancer after having inoculated himself with the juice of an encephaloid, thus proving the very theory which he wished to disprove.

It seems proven that physicians and surgeons pay a greater tribute than the rest of mankind to this terrible malady with which they have to struggle so often. English journals have reported several observations of direct contagion: a cancer of the penis in a man whose wife had a uterine tumor; specific ulceration of the hand and tumor of the arm-pit in a woman who took care of her mistress, the latter being affected with carcinoma

of the breast, the woman had also been washing the linen of her mistress, etc.

Assuredly more material will be necessary to establish all these ideas beyond a doubt, but already the day may be looked forward to—perhaps it is not distant—when like tuberculosis, cancer will fall from the rank of diatheses to that of a simple local disease with external causes.—*L'Union Médicale*, No. 52, 1889.

ON SURGICAL INTERVENTION IN TUBERCULAR PERITONITIS.—It has often happened and still happens that after diagnosing an abdominal tumor the abdomen is opened and tubercular peritonitis encountered. However, surgical intervention is sometimes useful in such a case, despite the mistaken diagnosis. M. CECHERELLI, of Parma, has tried to ascertain, 1, which are the cases of tubercular peritonitis in which surgical intervention is beneficent; 2, what are the reasons of the usefulness of such intervention. Four patients in his clinic gave him opportunity to study these questions. In two of them, a woman 32 years old, and a boy 11 years of age, who presented an enormous tumefaction of the abdomen, with fever, pains, etc., laparotomy, with extraction of several litres of liquid, followed by rinsing and dressing with iodoform, produced a complete cure. In one of these cases, the second, a relapse after three months enabled him to establish, *de visu*, the process of cure. He had to perform another laparotomy, which showed the existence of a large number of loops and adhesions between the parietal and visceral peritoneum. The third and fourth patients were children, in whom the ascites was inconsiderable and encysted in pockets, which he could open, drain, rinse and clean. All patients recovered, and in all the diagnosis of tubercular peritonitis was confirmed by the examination of the peritoneal fragments and of the liquids which were extracted. He thinks from his experience that laparotomy in peritoneal tuberculosis is especially useful in cases where there is considerable dropsy, the cure following, in Cecherelli's opinion, by the intermediation of an adhesive peritonitis after the laparotomy, with binding new formations which enclose and stifle the tubercles. In cases where these adhesions exist already it is not necessary to produce them by surgical intervention.—*La Semaine Médicale*, No. 17, 1889.

ON THE INFLUENCE OF TOBACCO SMOKE ON DIPHThERIA.—This question has been discussed in the medical college in Vienna. Supported by the discovery of Tassinari, of Pisa, which proved that the fumes of tobacco obstruct the development of the microbes, Dr. Hayack studied the statistics of the city of Vienna, to see whether cases of diphtheria were less numerous in men, generally smokers, than in women. In the last four years, 1885–1888, the proportion of cases in

men and women was 1:2.8; these figures confirmed, therefore, the results obtained by Tassinari. Dr. Unterholzer does not think that tobacco smoke has any influence on the progress of diphtheria for, according to statistics, the mortality of this disease is 4 per cent. less in women than in men. Dr. Neudörfer accounts for the antibacteric action of tobacco smoke by the presence of pyridine, which is a bactericide. It may be remembered here that in bacteriological laboratories smoking is forbidden, as the smoke impedes the development of the cultures. A conclusive experiment of this kind was made by Israël in Virchow's laboratory.—*L'Union Médicale*, No. 54, 1889.

ANTISEPTIC POWER OF SALOL.—At a recent meeting of the Hunterian Society, MR. CORNER introduced a series of cases illustrative of the antiseptic power of salol (salicylate of phenol) as a dressing for wounds, after the part had been rendered aseptic by a 1 in 20 solution of carbolic acid. He did not claim for it greater power than iodoform, and probably other antiseptics, but it has advantages over some. It possesses a pleasant aromatic odor, can be used freely without fear of irritation or poisoning, is absorbent of moisture, which drying forms a hard but friable covering. It will prevent putrefaction; it will not destroy it when once established. It has been used in increasing frequency for several years at the Poplar Hospital, and with excellent results, in compound fractures and dislocations, also as a dressing in amputations, minor and major, and in compound comminuted and depressed fractures of the skull. The first case shown was a compound comminuted depressed fracture of the frontal bone, in which the bone was elevated and some spicules removed. Afterwards the wound was washed with a solution of carbolic acid (1 in 20), the opening filled with salol, and a drainage-tube inserted. The dressing was undisturbed for fourteen days, remained sweet, and healed on the twenty-sixth day. His temperature remained from the first under 100°. A second case treated in January, 1889, was a compound fracture of the olecranon, head of radius, and humerus, opening the elbow joint, with considerable damage to soft parts, the elbow having been crushed by the passage of a railway engine over it. The olecranon was splintered and drawn up, causing serious tension of skin and necessitating removal of both portions. The antiseptic treatment and dressing were the same as in the previous case, but required changing after four hours and again next day, in consequence of oozing through. The parts were then left untouched for thirty days. The temperature went up the day after the injury, and remained about 101° for three days, 100° for two days, and then fell to normal. Two other cases were shown: one a crushed compound fractured finger,

dressed twenty-one days before, and not exposed since, there having been neither pain nor elevation of temperature; the other was a compound fracture of first phalanx of finger, only dressed at the time of the accident, and left undisturbed for a month, when it was found perfectly healed. It was pointed out that this was the common experience in such cases, and that even if gangrene followed the parts remained sweet.—*Lancet*, May 4, 1889.

CASE OF HYSTERIA MINOR AND OVARIAN PHENOMENA IN A MALE.—DR. SAVILL, of the Paddington Infirmary reports the following case in *The Lancet* of May 11. C. G., æt. 20, who had been a shoeblick and paper-seller, was admitted into the infirmary on Dec. 7, 1888, for granular lids and irregular action of the heart. The heart appeared normal, and there was (?) no valvular lesion. He was pale and anæmic, but presented no feminine qualities, and the organs of generation were well developed. On April 5, when he was being prepared for an application of the mitigated nitrate of silver stick, he was taken with a nervous attack. He complained of a ball rising in his throat, and a stifling feeling and pain in his chest. Then he gasped for breath, the limbs became rigid, he assumed the position of opisthotonos, and slid off the chair on which he had been seated. There were no clonic convulsions, but the sighing respiration, rigidity, and other symptoms lasted for several minutes, when, water being thrown in his face, he recovered.

On search being made for other hysterical symptoms no alteration of sensation could be discovered, but there was very marked tenderness in both inguinal regions. The lightest pressure in either groin was resisted by the patient, and produced a recurrence of the above-described "attack" in a much more accentuated degree, accompanied by violent struggling and cries of "Oh! my heart! Oh! oh! oh!" In addition to being thus provoked, it was ascertained that these "attacks" had lately on one or two occasions occurred spontaneously, after a meal; and that the patient was frequently subject to terrifying dreams, out of which he would awake, gasping for breath. The field of vision was not tested, because the patient's eyes had been under atropine.

Remarks by DR. SAVILL.—Instances of this sort of hysterical attack are not frequent in the male subject, and careful inquiry was made with a view to ascertain the cause. Nothing could be discovered in the family history pointing to hereditary predisposition, though it should be borne in mind that the family history of this class is often very deficient, and that it is exceedingly rare to meet with the disease in the male without this kind of predisposition. However, it is quite possible that one or all of three causes were in ac-

tion in this case. 1. He had begun intercourse with the opposite sex at the early age of 16, and had lately had nocturnal emissions. 2. Both of the patient's eyes had been bandaged, and he had been placed in a dark corner of the ward for a period of seven weeks (Feb. 15 to April 5); and, though he had been subject to occasional "flutterings in the chest" prior to admission, he had only had the severe "attacks" since this treatment had been commenced. It seems to me probable that the introspective state induced by this long absence from the light had some connection with his hysterical condition. 3. In the same ward as this patient is in another, who is an undoubted hysterico-epileptic, with whom he has mixed rather freely; and thus the element of contagion or imitation is introduced. Which of these three causes predominated it is difficult to conjecture, but it is probable that they all tended to foster and develop the marked hysterical phenomena exhibited by this patient.

RECONSTRUCTION OF THE BLADDER.—At the recent Surgical Congress at Bologna, Drs. TIZZONI and POGGI showed a dog from which they had extirpated the bladder, and afterwards formed a new one by means of a loop of small intestine. A segment of gut had been removed, the two ends of the divided tube carefully stitched together, and the transplanted portion fixed by one extremity in the position of the neck of the bladder, whilst the other was closed by ligature. The ureters had next been isolated, fixed to the sides of the new bladder, and their lower ends turned into it. The new bladder, possessing a mucous surface lined with cylindrical epithelium, was found to work well when the nervous centres had become accustomed to the altered relations of parts. The operation was done in two sittings; in the first the loop of intestine was isolated, together with its mesentery, emptied of faecal matter, washed out with carbolized water, and tied at both ends, one of which was fixed in front of the neck of the bladder; in the second, which took place a month later, the ureters were detached from the bladder, the latter organ was removed, the lower end of the intestinal segment was cut through and fixed to the neck of the bladder, and the ureters adapted to the new bladder. For a week or so there was incontinence of urine, then gradually the animal acquired control over the organ, so that it could hold its water for an hour. Several dogs have since been operated on in the same way with success. The dog shown at the meeting passed urine naturally, and showed no sign of incontinence. Drs. Tizzoni and Poggi finally discussed the applicability of this procedure to the human subject.—*British Medical Journal*, May 4, 1889.

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SATURDAY, JUNE 8, 1889.

YELLOW FEVER AND ITS PREVENTION.

At the Fourteenth Annual Meeting of the Arkansas State Medical Society, which was held at Pine Bluff, on May 28, DR. ALFRED NELSON, member of the College of Physicians and Surgeons of the Province of Quebec, and late a member of the State Board of Health of Panama, presented a paper upon the subject of "Yellow Fever." An experience extending over many years at Panama, Colon, Mexico, Cuba and Tampa, renders him specially fitted to write upon this subject. The honor, as being the first to recognize and cultivate the yellow fever germ and to use inoculation as a prophylactic, he accords to Dr. Domingo F. Revie, of Rio Janeiro. In this connection he refers to the faith of Dr. L. Girrard, late Surgeon-in Chief of the Panama Canal Company, in the protective power of inoculation, who inoculated himself and had a mild form of yellow fever which seems to have been followed by perfect immunity from that disease afterwards.

Dr. Nelson predicts that inoculation for yellow fever is destined to take equal rank with that for small-pox, and believes that a new era is at hand in the treatment of this terrible scourge. With reference to its pathology, he looks upon it as a blood disease pure and simple, and that except in the destruction of blood corpuscles there is often an absence of any other marked pathological evidence, death resulting from necræmia. With such prophylactic treatment and a proper quarantine surveillance, the travel and the commerce of the

nations, he believes, will be subject to little interruption. When the opportunity permits we shall be glad to place the entire paper before our readers.

IS THERE A SPECIFIC FOR CONSUMPTION!

It would be amusing, were it not so sad, to recount the many remedial measures employed against consumption. Their very number is a commentary upon the powerlessness of man to overcome this terrible foe. The very fact that they are all more or less successful in individual cases, emphasizes the impotence of any one remedy against the disease universally, and makes one doubt the likelihood of a specific ever being discovered. Only the prejudiced or ignorant would deny the incalculable service to humanity of Koch's discovery of the tubercle bacillus, since, by disclosing to the surgeon the real pathology of numerous affections, it has enabled him to deal with them the more successfully. But in the matter of finding a practical solution of the problem, how best to combat pulmonary tuberculosis, has it done much? It enables the physician to recognize the enemy he is fighting at an early stage, and thus renders him material aid. Nay, more! By disclosing the bacillus as the probable cause of the disease, it has pointed out the path that may ultimately lead to the heart of the enemy's citadel. In other words, it has shown that the measures which are to prove curative of phthisis, must be such as will either destroy the bacillus or overcome its deadly influence upon the human organism. More than this cannot be said.

Notwithstanding the unremitting efforts of physicians to find a specific cure for pulmonary tuberculosis, this has not been achieved. For this reason, it may not be time wasted, to glance at some of the means that have been essayed and are now in use.

These may be classified as general and local; the general being such, as it is hoped, will antagonize the constitutional effects of the disease, and by improving nutrition, help the system to limit the local destruction; while the aim of local treatment, is the reverse. It seeks to so modify or circumscribe the changes produced within the lungs, as to ward off the injurious effects upon the system at large that are sure to follow the unchecked progress of the local lesion.

Both of these plans are at times successful, but the best results appear to follow their union. Whatever plan of attack be adopted, or whatever the remedies employed, there should always be a careful hygienic management of each case. As it is assumed that this is understood, and we desire to mention only some of the most promising remedial measures in use, nothing further will be said on this score.

The French are particularly fertile in devising anti-phthisical modes of treatment, and one still giving success, it is said, although not much commented upon in the journals, is the subcutaneous injection of carbolic acid. It is best dissolved in glycerine. A 2 per cent. solution, and of this ten or fifteen minims are injected once or twice daily at first. The total daily amount thus administered may be gradually increased, without fear of toxic effects, it is asserted, if chemically pure acid be used. The acid is also given by the mouth by some. There is no possibility of saturating the system to such an extent as to destroy the tubercular bacillus which is peculiarly resistant, and hence the beneficial action of carbolic acid must be otherwise explained. This is to be found probably in its well-known power of lessening suppuration and putrefaction. Thus the fever due to absorption of the products of suppuration in the lungs would be lowered, fermentation within the gastro-intestinal tract would be checked, appetite and digestion improved, cough and expectoration diminished, sweating restricted, and consequently strength regained, which are precisely the results claimed for this treatment by M. Dujardin-Beaumetz and others.

Closely allied to the foregoing, and vastly more popular at present, is the internal administration of creasote. Jaccoud attributes to it decided virtue in counteracting the disastrous effects of absorption in the stage of softening; whereas von Bruun, Sommerbrodt and others after great experience with the drug, find it most beneficial in the stage of catarrh. It may be given in wine, cod-liver oil emulsion or in capsules. It is advised to begin with a daily dose of $\frac{3}{4}$ of a minim, which is to be gradually increased until the extreme limit of the stomach's toleration is reached.

Iodoform is likewise employed internally against phthisis, in pill-form, 1 grain being thus administered two or three times a day. Some favorable results have been reported of this agent

in conjunction with antipyretics. Great care should be exercised lest intoxication be produced.

Dr. C. T. Williams has experimented with phenyl-propionic acid in twenty cases of consumption of all stages, and with phenyl acetic acid in nineteen cases. The acids were dissolved in alcohol, one part in six, and of this ten to twenty minims were given in distilled water thrice daily. Of the cases treated with the former acid there was general improvement in 65.0 per cent., and improvement in the local manifestations of disease in 25.0 per cent. General improvement followed the use of the phenyl-acetic acid in 68.4 per cent., and local in 63.4 per cent.

These remedies are well borne by the stomach and may be administered for a long time. The phenyl-propionic acid seems to be the more suitable of the two for advanced cases.

Another drug from which excellent results are reported, is tannic acid in large daily amounts, forty to sixty grains. It was first proposed by MM. Arthaud and Raymond in consequence of their having found, by experiments on rabbits, that it lessened their susceptibility to inoculations of tubercular virus. Their observations have been confirmed by Ceccerelli, who found tannin exerted pronounced germicidal action in cases of tuberculosis of the bones and other accessible parts. In accordance with the views of Arthaud and Raymond, De-Viti-Demarco claims to have witnessed excellent results follow its prolonged administration in a number of cases, several of advanced phthisis. If given in moderate doses at first and gradually increased, it is tolerated by the stomach, and even improves appetite and digestion, cough, expectoration and night sweats; so that the medicine is certainly well worth a trial.

Of the effects of cod-liver oil, hyperalimentation, change of climate, etc., nothing need here be said.

Local medication is even more varied, and includes intra-pulmonary injections of solutions of iodine, carbolized camphor and the like, sprays of all possible antiseptic substances, the inhalation of ozone, oxygen and vapors of hydrofluoric acid, the wearing of respirators charged with divers sedative and antiseptic agents. But of all local measures account in detail can be given of only two. These are menthol and hot dry air. Fränkel and Rosenberg recommend the former by inhalation of its fumes at a tempera-

ture of 40° to 50° C. And in addition, Rosenberg advises intratrachial injections of a 10 per cent. solution in olive oil. To be efficient the Asiatic menthol must be employed.

The latest treatment, the one which seems *a priori* to come the nearest to being a specific, is the prolonged inhalation of air heated to a high degree, 250° C. (482° F.). Some accounts have already appeared in these columns of this measure, and Dr. Weigert's original communication to the *New York Medical Record* can be found in its issue of Dec. 15, 1888, together with a cut of his apparatus. The *rationale* of this treatment is based on the fact, that the tubercle bacillus is hindered in its development by temperatures either above or below that of the human body, 37.5° C. (99.5° F.) If, therefore, very hot air could be respired continuously, the bacilli ought to be destroyed, or at least deprived of their capacity for mischief. This being impossible apparently, Weigert has done the next best thing, viz.: made patients inhale air heated to 212° F. to 482° F. for two or more hours at a time twice or thrice daily. His published results are marvellous and warrant a careful investigation of his method. It commends itself for several reasons, one being that it can be used by the invalid at home. Not only do symptoms improve, but physical signs indicate the actual betterment of the local condition. To further the extended trial of this treatment, it is to be hoped that the instrument makers will place the apparatus on the market at such a price as will bring it within reach of all classes of patients.

THE DRAINAGE BILL.

Few subjects of State legislation have been more important than the Bill which was recently passed by the Legislature of Illinois, popularly known as the "Drainage Bill," and which received the signature of the Governor on the 29th of last month. Its purpose is the building of a ship-canal, which, in connection with the Mississippi river, shall form a great inland water communication between the Lakes and the Gulf of Mexico. Probably its importance to the Nation, and especially to the Mississippi Valley, in a commercial point of view, will hardly be over-estimated by its most sanguine promoters.

As a sanitary measure it has more than local interest and is worthy of a passing notice. Its

special importance to the city of Chicago can hardly be over-estimated. With a population numbering nine hundred thousand people, it was becoming a very serious question how properly to dispose of its sewage. The building of a ship-canal solves the whole problem—and, as it is believed, without detriment to other interests. A carefully conducted series of tests and observations has led our sanitary scientists to believe that the volume and velocity of the current will be such as to work its own purification and render it harmless to those who may be located in the vicinity of this new waterway.

With a tunnel projected four miles under the lake for the receiving of water beyond the limit of shore or surface pollution, and with such an outlet for its sewage—hardly more in these respects could be desired—and the ship-canal will doubtless prove to be one of the most important sanitary movements of the day.

A BRUTAL MURDER.

On the evening of May 4th, last, DR. P. H. CRONIN, a physician in the active practice of his profession, was called from his home and was driven to an unoccupied house at the Northern limit of Chicago and there murdered in cold blood. He went in answer to a request that he should minister to the needs of a laborer suffering from a severe accident—and in response to what seemed to be a legitimate demand of his profession, he went to his death. The motives which impelled to this foul murder we do not care to discuss, suffice it to say they neither compromised his individual or professional honor. Men may condone the crime of death by duel, perhaps; the assassin may enter a possible plea for leniency, but when in the name of suffering humanity a physician is thus lured from his home and brutally murdered, there are no words descriptive of such an atrocious crime, and there can be no palliation of such guilt.

THE ELECTION OF SECTION OFFICERS.

An old member of the Association, who joined it in 1859, writes to the Editor to say that he voted to change the election of officers of Sections, from the Nominating Committee to the Sections, but in his opinion there were gentlemen at a recent meeting who voted in several Sections, and

he is now sorry he originally supported the present method. The change, he says, was to insure that men specially devoted to the work in certain Sections should be elected by those familiar with the work.

Our understanding is that when the Association voted to change the system of election of the officers of the Sections, it was not contemplated that a member should vote in more than one Section, and the hour for the election of Section officers was intended to be fixed so that all Sections would vote at the same time. As time has progressed, it has become apparent that some safeguards must be thrown around the election of Section officers. It is thought that the most feasible plan is to have a Section register book, and on the day preceding the election that each gentleman intending to vote in a particular Section should be required to register his name.

The idea of Section elections was popular because it was thought the gentlemen in attendance on a particular Section were more likely to select a chairman who took a personal interest in the affairs of the Section than would the Nominating Committee, who were already overburdened with work.

The opinion was correct, but since men are as they are, it is necessary to see that Sections vote according to their real sentiment, and not "as packed." The requirement of registration would have the effect to correct any evil of the kind alleged to exist, and one of the most pleasant features connected with the Association is that, as at present constituted, the machinery for the correction of any real or suspected abuse is always at hand and can be easily applied.

EDITORIAL NOTES.

THE AMERICAN PUBLIC HEALTH ASSOCIATION will hold its Seventeenth Annual Meeting at Brooklyn N. Y., on Oct. 22, 23, 24 and 25, 1889. The Executive Committee have selected the following topics for consideration at said meeting:

1. The Causes and Prevention of Infant Mortality.
2. Railway Sanitation.
 - (a) Heating and ventilation of railway passenger coaches.
 - (b) Water-supply, water closets, etc.
 - (c) Carrying passengers with communicable diseases.

3. Steamship Sanitation.
4. Methods of Scientific Cooking.
5. Yellow Fever.

(a) The unprotected avenues through which yellow fever is liable to be brought into the United States.

(b) The sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever.

(c) The course to be taken by local health authorities upon the outbreak of yellow fever.

6. The Prevention and Restriction of Tuberculosis in Man.

7. Methods of Prevention of Diphtheria, with Results of such Methods.

8. How far should Health Authorities be permitted to apply known preventive Measures for the Control of Diphtheria.

9. Compulsory Vaccination.

10. Sanitation of Asylums, Prisons, Jails, and other Eleemosynary Institutions.

Papers upon miscellaneous sanitary subjects not included in the above list will be received by the Executive Committee, subject to the requirements of the By-Laws.

The Secretary is Dr. Irving A. Watson, of Concord, N. H., to whom all communications should be addressed.

DR. S. P. MOORE, who was Surgeon-General of the Confederate States, died suddenly at his residence, Richmond, Va., on the 31st ult., of congestion of the lungs.

THE NEW HAMPSHIRE MEDICAL SOCIETY will hold its ninety-eighth annual meeting in Concord on June 17 and 18. The Councillors' meeting will be on Monday evening, June 17, at the hall of the G. A. R., at 7:30 P.M.

THE NEWPORT CITY COUNCIL has appropriated \$300 for the entertainment of the American Medical Association.

THE MISSOURI PACIFIC RAILWAY HOSPITAL at Independence will be removed to Kansas City, where it is the intention of the road to erect a \$40,000 building.

THE STAFF OF THE JOHNS HOPKINS HOSPITAL.—Dr. Wm. Osler has been appointed physician-in-chief; Dr. W. H. Welch, pathologist; Dr. W. S. Halstead, chief of dispensary; Dr. H. A. Lalleur, resident house physician; Drs. Harry

Taulmin and G. E. Clark, assistant house surgeons; Drs. Alan P. Smith, James Carey Thomas, Isaac E. Atkinson, S. C. Chew, Frank Donaldson, W. T. Howard, C. Johnston, T. S. Latimer, F. T. Miles, G. W. Miltenberger, L. McLane Tiffany, and H. P. C. Wilson, consulting physicians and surgeons.

DURING the past year the Pennsylvania Hospital treated 2,363 cases in its wards, 4,409 accident cases, and 7,616 out-patients.

BEQUESTS.—It is announced that the late Mrs. Sargeant, daughter of Dr. Oliver Wendell Holmes, has bequeathed to Harvard College \$10,000 as a memorial to her father, the income to be applied for the use of the anatomical department; \$25,000 for the general purposes of Harvard University; \$5,000 to the Massachusetts General Hospital; and in the event of her brother, Judge Holmes, leaving no issue, a further sum of \$25,000 to the Boston Medical Library Association.

A SCHOOL OF HYGIENE has been established at Naples.

PROF. CARL VOGT, the eminent biologist of Geneva, celebrated the fiftieth anniversary of his graduation as Doctor of Medicine on May 19.

PROF. TOMMASO VIRNICCHI, of Naples, one of the pioneers of modern surgery in Italy, died recently at the age of 64.

FATHER DAMIEN, the well-known Belgian priest, who labored so patiently for sixteen years in the leper colony of Molokai, in the Sandwich Islands, succumbed to the disease on April 10.

GALVANI ON ELECTRICITY.—Signor Dall' Olio, the assessor, recently paid a visit to the Communal Library at Bologna, Italy, and in the course of his search came on a book-case containing a number of volumes which had not been classified. Among them was found a hitherto unknown treatise by Galvani, on electricity.

M. PASTEUR will deliver the Croonian Lecture on the 23d inst.

MEDICAL EDUCATION IN TURKEY.—The Sultan has granted a subsidy of 500,000 piastres for the erection of a new clinical building and laboratories in connection with the Medical School at Constantinople.

BRITISH MEDICAL ASSOCIATION.—The fifty-

seventh annual meeting of the British Medical Association will be held at Leeds on August 13, 14, 15 and 16, 1889. The president-elect is Mr. C. G. Wheelhouse, F.R.C.S. The address in Medicine will be by J. Hughlings Jackson, M.D., F.R.S.; the address in Surgery by T. Pridgin Teale, M.B., F.R.C.S., F.R.S.; and the address in Psychology by Sir J. Crichton Browne, M.D., LL.D., F.R.S.

THE GERMAN DERMATOLOGICAL SOCIETY holds its first congress at Prague during the coming week.

CONSUMPTION IN THE GERMAN ARMY is greatly dreaded by the authorities since the recent Parisian Medical Congress pronounced that the disease was contagious. Accordingly, the German War Minister has decided that the chest of every soldier must be measured once a month. If the chest does not reach a certain breadth, and does not develop with drill and athletic exercises, the soldier will be disqualified as predisposed to consumption, and likely to infect his comrades.

SOCIETY PROCEEDINGS.

The American Surgical Association.

Annual Meeting, held in the New Army Medical Museum, Washington, May 14, 15, and 16, 1889.

(Continued from page 787.)

WEDNESDAY—MORNING SESSION.

DR. J. COLLINS WARREN, of Boston, read a paper on

THE EARLY DIAGNOSIS OF MORBID GROWTHS.

Reference was first made to the great desirability of some means of making an early diagnosis in cases of possible malignant disease. The attempt to make a microscopical examination of morbid growths before their removal dates back to the earliest period of microscopical histology. The pain and danger of inflammation attending the methods adopted led to their abandonment. Antiseptic surgery, however, now enables us to perform such an operation almost with absolute certainty of absence of inflammation. Local anæsthesia with ether spray or cocaine renders the exploration free from pain. The instrument which the author employs consists of a small canula, sharpened at the end. The calibre of the instrument varies from 2 to 5 millimetres. The in-

strument is used by gently rotating the canula between the fingers. After the instrument has penetrated the tumor to the desired depth, it is withdrawn a short distance, and then entered obliquely so as to cut off the column of tissue. The piece removed may be as large as 5 mm. in diameter and 3 cm. in length, or even larger. The fragment can be at once examined by means of freezing microtome or placed in alcohol and hardened. The operation can readily be performed at the physician's office and immediate diagnosis made. Several cases were reported illustrating the information obtained by the use of the canula. The instrument has been used in over 100 cases, with little or no discomfort to the patient and with satisfactory results. It has been used in abdominal tumors. It has been used in one or two growths involving the abdominal parietes and peritoneum, but not in deep-seated organs. The object of the author in bringing the results of his observations before the Association, was to show that modern improvements have made an old and discarded method not only practicable, but a valuable addition to our means of surgical diagnosis.

DR. F. S. DENNIS, of New York: I wish to protest against reliance upon this instrument in the diagnosis of malignant disease. I have never found pathologists willing to base a diagnosis of malignant disease upon the shreds of tissue removed by such instruments. More reliance is to be placed upon the clinical features than upon the microscopical appearances. Among these are age, situation of the tumor, the macroscopic appearance, pain, cachexia, lymphatic enlargement, hereditary influence, and finally the use of the harpoon. While the harpoon or cannula is a useful adjuvant, we cannot rely upon it absolutely in making the diagnosis.

DR. P. S. CONNER, of Cincinnati: I think that there is nothing more definitely settled than the difficulty of relying absolutely upon the microscopical examination in cases of supposed malignant disease. It is a confirmatory testimony of great value. In the instrument presented we have an additional aid to our means of diagnosis. While the points presented by Dr. Dennis are valuable, they do not aid much in the early diagnosis.

DR. R. A. KINLOCH, of Charleston, N. C.: It is a well established surgical principle that all tumors should be removed, so that the early diagnosis is perhaps not so essential. The question that arises is whether it would not be better to remove the tumor and make the diagnosis of its nature afterwards.

DR. W. H. CARMALT, of New Haven: In carcinoma and sarcoma the clinical features are, to my mind, a great deal more important than anything we can obtain from the microscope. Microscopical examination of different parts of the same tumor may present different appearances. An-

other point in regard to the use of the canula is the danger that the irritation excited by the instrument may convert a benign tumor into a malignant growth.

DR. WM. H. RICHARDSON, of Boston: I have seen this instrument used in many cases without bad effect, and the microscopists consider that they derive valuable information from examination of the plugs of tissue removed. We cannot make a correct diagnosis in the earliest stages of malignant disease from the clinical evidence alone, and it seems to me that in the early diagnosis this instrument affords valuable aid.

DR. L. McLANE TIFFANY, of Baltimore, read a paper on

FREE DIVISION OF THE CAPSULE OF THE KIDNEY FOR THE RELIEF OF NEPHRALGIA.

Four years ago the author had suggested the use of incision of the capsule of the kidney in the treatment of nephralgia. The patient, a woman *æt.* 49, white, married. Had had gonorrhoea and syphilis. She had had abscess of the pelvis opening by the vagina, the discharge continuing for two years. Three years ago she experienced, in the right loin, sudden severe pain, lasting for a moment. It was supposed to be due to the passage of a kidney stone. The attacks recurred at irregular intervals, the periods becoming progressively shorter and the pain more intense. No calculi had ever been voided. Blood had been seen at rare intervals. The pain always began in the right loin midway between the pelvis and the ribs. It then extended towards the middle line of the body, and down to the bladder and groin on the right side. Exertion was apt to induce it. Pressure on the right kidney caused acute pain, but no tumor could be made out. The urine was moderately acid, *sp. gr.* 1022, contained pus cells and a few red blood discs. There was no rise of temperature during the attacks.

The operation was performed January 12, 1889. The kidney, when exposed, moved freely during respiration. A deep stellate scar existed in the kidney, two inches from the lower end. No other abnormality was discovered. A sound was passed into the pelvis and a systematic exploration made, but no stone was detected. The capsule was then freely slit open for three inches. The edge of the cut gapped widely. The wound was then closed and an aseptic dressing applied. No urine passed by the lumbar wound. This soon healed, and since the operation, a period of four months, there have been no attacks of nephralgia.

DR. THEODORA A. MCGRAW, of Detroit: Three months ago I operated on a woman on the supposition that there was a renal calculus. None was found, but the capsule was freely slit and since the operation there has been no return of pain.

DR. LANGE, of New York: In one case of

severe pain recurring at irregular intervals, I operated with the expectation of finding a stone in the kidney, but none could be detected. I then proceeded in the manner described by the reader. The patient remained free from pain for three or four months. The attacks then reappeared.

DR. W. W. KEEN, of Philadelphia: I would like to refer to one source of error in the diagnosis of renal calculi, which has not been mentioned. I recently operated on a case of tumor of kidney in which, when the needle was passed into the substance of the organ, it gave a distinct impression of coming in contact with a stone. The tumor was malignant, and so adherent that it could not be removed. Subsequent examination showed that there was no calculus and that the needle must have come in contact with a calcareous vessel, of which there were several, or a mass of calcareous matter which was present.

DR. JOHN HOMANS, of Boston: I recently operated in a case in which there was a large swelling in the perineum, in a boy of 15 years. I removed, by perineal section, thirteen stones from the urethra. The urethra would admit my forefinger. There was also a swelling in the loin, which did not disappear after the operation. Three weeks later I opened the kidney through the right loin. I found a considerable quantity of pus, but could detect no stone, although I am not sure that a stone may not have been present.

DR. J. M. BARTON, of Philadelphia, read a paper on

DIGITAL DIVULSION OF THE PYLORUS FOR CICATRICAL STENOSIS.

(See page 799.)

DR. R. A. KINLOCH, of Charleston, S. C.: I have no personal experience with this operation. We must accept the testimony of reliable men, but I cannot understand how an organic stenosis of the pylorus is cured by a single dilatation. This is not the case with organic stenosis in other parts, as the rectum and œsophagus. I am inclined to believe that where the benefit has continued for any length of time, the organic change has been slight. I can understand how benefit could be expected if the wound were kept open and the stricture systematically dilated.

DR. M. H. RICHARDSON, of Boston: The mortality of gastrotomy, as a primary operation, is extremely small. I have also found, from sixty dissections, that the longitudinal incision between the greater and lesser curvatures made the best incision for reaching either the pylorus or the cardiac extremity of the stomach. The shortest incision was one inch, but the incision usually required was two or three inches.

DR. J. EWING MEARS, of Philadelphia: While it may not be easy to explain the results obtained by digital divulsion of the pylorus, there can be no question as to the beneficial results. The evi-

dence of reliable operators certainly indicates that it is a proper operation and attended with successful results. This operation should always be performed in preference to pylorotomy.

AFTERNOON SESSION.

DR. THEO. A. MCGRAW, of Detroit, read a paper entitled

A CONTRIBUTION TO THE HISTORY OF GUN-SHOT WOUNDS OF THE ABDOMEN.

Reference was first made to a case of gun-shot wound of the abdomen operated on by Dr. R. Abbe, of New York, July 8, 1886, in which, four hours after the accident, adhesions of the intestine to the abdominal wall were found, forming a cavity containing extravasated feces. The adhesions were broken up, and four holes in the bowel and one in the bladder were closed. Suppression of urine and death followed. In August, 1887, the author was called to a case of gun-shot wound of the abdomen, fourteen hours after its occurrence. At the operation it was found that adhesions had formed, shutting off the peritoneal cavity. These were broken up and eight perforations of the bowel found. Five of these had become so occluded by lymph as to be detected with difficulty, and no discharge could be forced thro' them. Four feet of the ileum were excised. The patient died twenty-six hours after the operation. A study of these cases led the reader to suggest that under such circumstances the drainage of the cavity would be the best plan to adopt. The artificial anus or fecal fistula could then be operated on at a later period. The question arises, whether or not these cases of early agglutination are sufficiently numerous to warrant our making them the point on which the treatment of all cases of penetrating wounds of the abdomen, over six hours old, must turn. This question can not be decided at present.

A review of the approved methods of treating gun-shot wounds of the abdomen was then taken up. The great danger has been shock. The shocks had depended, 1st, upon the time occupied in operating; 2d, upon the amount of evisceration; 3d, upon the number and the nature of the injuries to be repaired; 4th, upon the chilling of the intestines; and 5th, possibly upon the long-continued anæsthesia. In discussing the subject the following propositions were considered, many of them based upon experiments upon dogs and sheep:

1. The gravity of an injury of this kind depends partly upon the size of the missile.

2. Gun-shots which enter the abdominal cavity pass in a nearly absolutely straight line from the orifice of entrance, through the peritoneum to that of exit, or to their final stopping-place in the viscera. All apparent deviation of bullets fired

into the abdomen from a direct path are due to changes in position subsequent to the shooting.

3. An incision made directly in the course of the ball, will give the shortest route to the injured viscera.

4. The contents of the bowels may be made to discharge through an open gun-shot wound by manipulation and pressure.

5. An empty condition of the alimentary canal is most favorable to healing. To secure this it may be proper in some cases of injury of the bowel immediately after a hearty meal to evacuate the contents of the stomach by means of a siphon.

6. Agglutination and limitation of the morbid processes consequent upon gun-shot wounds may take place as early as the sixth day.

7. Senn's method of hydrogen-gas insufflation, however admirable in recent cases, should be used with great caution in cases four hours old, and especially in those made by small bullets.

8. The dangers of the operations for penetrating gun-shot wounds of the abdomen are directly in proportion to the length of the operation and to the amount of the evisceration. The duration of the operation may be lessened, 1st. Making the incision over the line taken by the ball, or if it has passed from before backward, over the point of entrance. 2d. By limiting the examination of the viscera strictly to such of them as may have been in the course of the ball. 3d. By suturing wounds of the intestine, wherever it is possible, instead of excising them. 4th. By omitting all operative procedures, even suture, in wounds which have become so thoroughly occluded by plastic material that the contents of the bowel cannot be pressed through them. 5th. By operating first on those wounds which imperatively demand it and leaving to the last those which may recover without operation. 6th. By never eviscerating a patient, except, first, when hæmorrhage is otherwise uncontrollable; and secondly, when there is a discharging wound which cannot otherwise be found. The evisceration of a patient is as dangerous as any gun-shot wound of the intestine which cannot be made to discharge its contents by manipulation or pressure can possibly be. There are cases where evisceration is necessary, but the author protested earnestly against the habit of eviscerating patients suffering from gun-shot wounds of the abdomen as a matter of routine. We are not warranted in turning a man inside out and subjecting him to frightful dangers in the mere fear that there may still be an undiscovered wound, when all the symptoms which ought to indicate such a wound are absent.

9. In cases of these wounds in which the patients may be too weak to undergo any radical operation for their repair, efforts for their relief may be made by incision and drainage, and in some cases by attaching the injured intestine to

the abdominal wall, as in gangrenous hernia. This procedure, occupying but little time and making no draft upon the strength of the patient, may offer a hope of recovery which would not be possible under the expectant mode of treatment.

DR. D. W. YANDELL, of Louisville: The statement in regard to the course of balls is new to me. A number of cases which I have seen had led me to believe that balls entering the abdomen might deviate very greatly. I am not altogether prepared to accept the statement at present. In one case, in which the pistol was held near the individual and in a straight-line, the ball entered above the symphysis pubis, and was found below the spleen, having wounded intestines in its course. The recommendation that in the extreme cases, where the patient is greatly exhausted, the wounded intestine be secured at the abdominal incision, is certainly conservative, and it would seem to me to be wise.

DR. C. B. NANCREDE, of Philadelphia: There are such a number of cases on record in which it was supposed that the balls were deflected, that I think that there can be no doubt that this occurs occasionally. In regard to the incision, from my experience with both the median and lateral incision I am forced to the conclusion that unless we are certain that the ball has followed an antero-posterior course, the median incision is to be adopted in every case, with rare exceptions. I suppose that Dr. McGraw means by evisceration, removal of the intestines *en masse*. It makes a great difference, as far as shock is concerned, whether the intestines are removed all together or simply an inch brought out of the opening, immediately replaced and another portion examined, at no time exposing a large portion of the bowel. So many cases have been recorded in which death was the direct result of overlooking a single wound of the viscera or blood vessels, that the only safe rule is to make a thorough examination before closing the abdominal incision.

DR. J. EWING MEARS, of Philadelphia: The median incision is, I think, the one which should be adopted. It can be extended any desired distance, which cannot be done with the lateral incision. By the median incision the entire abdominal cavity can be inspected. In regard to what has been termed evisceration, I think that it is better to permit the patient to die without operation than that an incomplete or imperfect operation should be performed. I think that the surgeon would be almost criminally culpable if after subjecting the patient to the dangers of an abdominal section he closes the abdomen without satisfying himself by thorough examination that he has found every wound that could have been inflicted. It is not necessary to turn all the intestines out. It is sufficient to slip them through the hands, subjecting them to careful inspection.

DR. R. A. KINLOCH, of Charleston: After the

abdomen is opened in a search for wounds I think that every wound should be closed. We cannot say that one wound is of less importance than another.

DR. W. W. KEEN, of Philadelphia: As regards the line of incision, we should make a distinction between stab wounds and gun-shot wounds. In the former case I think the incision should be made at the point of wound, while in the latter the almost invariable rule should be the median incision. I can but agree with previous speakers that after we have opened the abdomen no case is properly treated if we leave by any possibility a single wound. Every wound should be sutured.

DR. C. H. MASTEN, of Mobile: In regard to the course of balls, I treated one case in which the ball entered one inch to the right of the umbilicus, made nine openings in the intestine, passed down through the bladder, out through the prostate, and lodged near the tuber ischii on the left side. The spinal column had not been injured.

DR. F. S. DENNIS, of New York: I believe that it is a rule, without exception, that the median incision should be made where we are going to sew perforations in the bowel, or stop hæmorrhage in the abdominal cavity. The point of first importance is the control of hæmorrhage. The median incision will permit the surgeon to enter the peritoneal cavity in half a minute.

DR. STEPHEN H. WEEKS, of Portland: I have not heard allusion in regard to the use of Dr. Senn's method. He laid stress upon two points, first, the use of the gas in determining whether perforation had occurred, and second, in locating the openings in the bowel. It seems to me that this latter is a valuable point.

DR. STEPHEN H. WEEKS, of Portland, Me., read a paper on

DRAINAGE AND DRAINAGE-TUBES IN THEIR APPLICATION TO THE TREATMENT OF WOUNDS.

He referred to the great importance of drainage, and after alluding to the various methods proposed for securing it, described a new form of absorbable drainage-tube prepared from the arteries of animals. The arteries used are those of the ox. They are separated from their sheaths, cut into tubes 4 or 5 inches long. They are then boiled in water for about five minutes. This sterilizes them and hardens their coats. Holes are next cut in their sides and they are passed over glass rods of different sizes, according to the size of tube desired. They are now placed in corrosive sublimate solution, 1:100, and allowed to remain ten minutes. Then they are placed in alcohol, 95 per cent., and at the end of twenty four or forty-eight hours the glass rods are removed, the tubes being kept in alcohol until needed. These

tubes are unirritating to the tissues, they are absorbed in from five to seven days and drain the wound perfectly.

THURSDAY, THIRD DAY—MORNING SESSION.

DR. JOHN HOMANS, of Boston, reported

A SUCCESSFUL CASE OF NEPHRECTOMY FOR THE REMOVAL OF CANCER OF THE RIGHT KIDNEY.

The patient, a woman of 50, for a year had suffered with frequency of micturition. The urine had been dark and bloody at times. For three years she had suffered from indigestion. The tumor had been discovered in 1887 in the right iliac region, and since July, 1888, it had grown rapidly. It filled the right iliac region and more or less the umbilical and pubic regions. On palpation large irregular nodules were felt, and in some parts there was fluctuation. Laparotomy was performed January 21, 1889. The incision was made in the linea alba and was 4 inches in length. The tumor was exposed, and in the upper part was seen the remaining portion of the kidney and two large renal veins. These were tied with silk and the ureter was next tied and divided, and then the pedicle was readily ligated. The tumor was removed, a glass drainage tube introduced, and the wound closed and dressed with iodoform gauze and absorbent cotton. The tumor measured 6 by 9 inches and weighed 53 ozs. There was very little shock. The amount of urine since the operation has varied between 10 and 57 ozs. and has been gradually increasing. There was but little discharge from the drainage tube, which was removed on the fourth day. One month after the operation an abscess was opened in the right lumbar region. A slight swelling and some tenderness still remains in the right loin; whether these are wholly inflammatory or due to a recurrence of the growth cannot at present be determined. The patient is rapidly gaining strength.

The experience of the author led him to say that a large renal tumor which cannot be diminished in size by tapping (he would consider one weighing 1 lb. or more a large tumor), can most conveniently be removed by an incision through the linea semilunaris or in the linea alba. Small tumors and those that can be diminished may be removed by the lumbar incision. In cases of moderate-sized kidneys disorganized with pus, or tubercular or containing calculi, the lumbar incision is preferable.

DR. FREDERICK E. LANGE, of New York: In cases where a large tumor of the kidney is to be removed and where it is desirable not to open the peritoneal cavity, I have found a trap-door incision with resection of one or two ribs if necessary, give ample room for operation. I have operated nine times, but never for neoplasms. With free incision and open antiseptic after-treatment I re-

garg extirpation of the kidney, even in cases of large tumors, a comparatively safe operation.

DR. M. H. RICHARDSON, of Boston: There is a frequent anomaly of the vascular supply of the kidney which should be borne in mind in operations. Instead of one renal artery there may be three or even four arteries. If such a pedicle is ligated *en masse*, there is danger of slipping of the ligature and hæmorrhage. This is obviated by tying the pedicle in several sections.

DR. LEWIS S. PILCHER, of Brooklyn, read a paper on

THE QUESTION OF THE ANTI-TUBERCULAR POWER OF IODOFORM, WITH A SUGGESTION FOR A MORE EXACT CLINICAL TESTING OF THE SAME.

The paper first called attention to the different results obtained by the application of iodoform to tubercular tissues, according as the results were derived from clinical experience or from observation of tubercular affections artificially induced in animals. The following case was a contribution to the study of this question:

A girl æt. 13, with a family history of tuberculosis, came under observation with an infiltrated and ulcerated patch on each leg; there was also on each thigh an infiltrated patch without ulceration. The disease was of three months' standing. The diagnosis of tuberculosis of skin was made. The patch on the right leg was excised and microscopical examination confirmed the diagnosis; tuberculous nodules with bacilli were found. The patches on the thighs were also excised and healed without further treatment. Bismuth was applied to the patch on the right leg and healing progressed satisfactorily. It was then determined to apply skin grafts. The sore was curetted, the grafts applied and did well for a time. Later the epithelial elements broke down and a number of small ulcers formed. At the base of each ulcer was found a particle of bismuth. Portions of the tissue removed, however, showed no bacilli. No iodoform had been employed. Boracic acid ointment and the occasional application of nitrate of silver were now ordered. The ulcer on the left leg was curetted December 10, 1888, sprinkled with iodoform and covered with absorbent cotton. It rapidly healed, and on January 25 a wedge-shaped piece was removed and examined. It was entirely free from evidences of tuberculosis. A soft natural skin has since formed.

DR. W. H. PANCOAST, of Philadelphia, made some brief remarks on the following topics:

1. That the so-called metacarpal bone of the thumb did not belong to the metacarpal group; that its method of development clearly placed it in the class with the phalanges.

2. He next exhibited and described his urethrotome, which he had used with satisfaction for twenty years.

3. A delicate knife which he termed the therapeutic knife, employed for making numerous minute punctures in an inflamed part for securing an antiphlogistic effect.

4. A gun breech which had remained for some time unsuspected in the superior maxillary bone of a boy.

5. The use of black silk bandages and black adhesive plaster as adding greatly to the neatness of a dressing.

6. The use of iron dyed black silk ligatures.

7. His method of treating varicocele by passing a silk thread through the scrotum between the vas deferens and the veins, returning it through the same opening in the skin but in front of the veins, passing the ends of the ligature through holes in a metal plate and tying tightly. The cure is complete in three or four days.

The committee appointed to take action in regard to the death of Dr. S. W. Gross, presented the following:

WHEREAS, It has pleased the Almighty to remove from our midst Dr. Samuel W. Gross, who assisted in founding the American Surgical Association and contributed by his example and work largely to its success, who as a teacher was enlightened and impressive, as an author was accurate and original, as a surgeon was sound in judgment, rich in clinical experience, skilled in manipulation, and as a Fellow was genial and courteous; therefore, be it

Resolved, That the Association deplores his death as an irreparable loss, and directs that a copy of the foregoing be spread upon its minutes and forwarded to his bereaved family. Signed,

D. W. YANDELL,
P. S. CONNER,
J. EWING MEARS.

OFFICERS FOR ENSUING YEAR.

President—Dr. D. W. Yandell, Louisville, Ky.
Vice-Presidents—Dr. Claudius H. Masten, of Mobile; Dr. C. B. Nancrede, Philadelphia.
Secretary—Dr. J. R. Weist, Richmond, Ind.
Treasurer—Dr. P. S. Conner, Cincinnati.
Recorder—Dr. J. Ewing Mears, Philadelphia.
Council—Drs. John S. Billings, L. McLane Tiffany, W. F. Peck and F. S. Dennis.
Chairman of Committee of Arrangements—Dr. J. S. Billings, Washington.

The following were elected members: Dr. Stephen H. Weeks, Portland, Me.; Dr. Robert F. Weir, New York; Dr. John Homans, Boston; Dr. Lewis A. Stimson, New York; Dr. Frederick E. Lange, New York; Dr. Lewis S. Pilcher, Brooklyn; Dr. Levi Cooper Lane, San Francisco; and Dr. Arthur T. Cabot, Boston.

The Association then adjourned to meet in Washington the second Tuesday in May, 1890.

Philadelphia County Medical Society.

*Stated Meeting, April 10, 1889.*THE PRESIDENT, W. W. KEEN, M.D., IN
THE CHAIR.DR. GEORGE ERETY SHOEMAKER read a
paper on

EARLY RECOGNITION AND TREATMENT OF MALIGNANT DISEASE OF THE UTERUS.

In considering this subject two general stand-points present themselves; that of the pathologist and that of the clinician. While of course both are interdependent and of great importance, it is proposed in these remarks to give special attention to the recognition of cancer by the means available to the practical physician who is called upon to make up his mind during the life of the patient what the trouble is and what is to be done for the patient's good.

The importance of the subject, since every physician finds a large part of his practice to be among women, is shown by the mere statement that out of 4,600 cases of diseases of women reported by Emmett, 113 from all classes of society had malignant disease of the uterus, or 2.45 per cent.

As in the case of malignant tumors of other portions of the body, their existence in the uterus in advanced stages is easy to determine, though some obscurity as to the variety may remain. The peculiar sharp, inconstant, lancinating pain in abdomen, back and thighs; the discharge of watery fluid with a characteristic odor; the presence of hæmorrhage and cachexia; form a group of symptoms which are conclusive almost without an examination; while even the practitioner who almost never makes a vaginal exploration would not fail to recognize an advanced growth on touch and inspection.

Whatever be the nature of the growth, the immobile uterus, the cervix large, hard and patulous; the abundant nodules, hard, inelastic, immovable; the extensive ulceration, the probable presence of exuberant granulations if not cauliflower excrescences, with their friable, easily bleeding characters, will be at once recognized.

But it is in precisely these far advanced cases that diagnosis is least important, for the palliation from operative treatment is greatly less than in earlier stages. The time to diagnose cancer is in the very beginning, when thorough removal can be made, and it is just here that the average practitioner is at fault. Perhaps through lack of confidence in his own powers of diagnosis, perhaps from a general impression that no benefit would be derived from treatment, perhaps from a personal distaste for such examinations and long disuse of them except before and during labor (I say before and during labor, not

after labor, for it would seem, as far as the writer's observation goes, not to be a habit among practitioners to satisfy themselves, by systematic examination at the end of every puerperal period, that no serious lacerations or displacements are left to produce future trouble, from whatever cause it may be, cases of malignant disease of the uterus are too often allowed to drift along through a most important period unrecognized. Even if not a specialist, if a practitioner will take the trouble to do his very best he can learn much in such cases. Let him take plenty of time, go to the trouble of securing a good light so that he can see clearly, let him see the case on his office chair if possible, at any rate not with the hips half buried in a bed, placed as far as possible from a heavily curtained window.

It is, however, true that in a few cases malignant disease will make considerable advance without giving rise to symptoms enough to bring about an investigation.

Early symptoms.—Bleeding in most cases first attracts attention. If menstruating the woman will lose more at her periods or may bleed between them, as she does from many other causes. If she has definitely ceased to menstruate, the occurrence of hæmorrhage, even though slight, should always lead to immediate examination; for while the cause is more likely to be fungous endometritis or a fibroid or polypoid tumor, evidence of cancer may be found. It is not a trifling matter to suggest that the results of this examination should be put upon record, with the date, even though apparently negative. The discharge is irregular, increased by exertion, and may consist either of bright blood which will clot, or of a bloody watery fluid, with or without odor. The patient may at the same time have a free leucorrhœa, of independent origin.

The nature of the disease may not be suspected by the woman, who may present every appearance of florid health, and whose previous life may have been more than usually free from disease. Usually, however, there will be some evidence of impaired vitality and loss of tone; though a true cachexia, with its dead-white, or sallow, or straw hue of the skin, its pinched and peculiar expression, belongs to a later period of the disease, when there is considerable constitutional change.

The very earliest symptom is in some cases *pain* while others will pass through all stages of the disease and remain remarkably free from it. The writer has in mind a case of his own, where the diagnosis of advanced epithelioma does not admit of question, and where pain has never occurred in any considerable degree.

In another case under his observation, but slight pain is present and that not characteristic.

It is said to be generally more severe in epithelioma than in the interstitial forms of disease.

and more apt to be severe when the infiltration passes beyond the cervix to the body of the organ. Infiltration of surrounding pelvic tissues involves pressure on sacral nerves, which occasions severe pain in one or both hips and down the backs of the thighs; but the pain may come from nipping of terminal fibres of the sympathetic system within the cervix or body of the organ. Persistent pelvic pain, especially if lancinating and extending to the loins and the back of the thighs, should excite suspicion of malignant growth, particularly in women near the menopause. The offensive watery discharge speaks of disorganization of tissue and is not often a very early symptom, though characteristic when found. Offensive leucorrhœa from other causes is not uncommon, but there is no smell like a cancer smell. The absence of odor is by no means indicative of the absence of disease, and this is true of *every other* single symptom.

Thus far there is nothing to suggest the variety of growth which may be present. Examination reveals more exactly the condition of affairs.

The malignant growths which may involve the uterus are quite variously classified, but may be given as follows in their order of frequency:

Epithelioma:

Encephaloid or "soft" cancer:

Sarcoma:

While scirrhus and colloid cancer (or as it is now classified by some writers, myxo-sarcoma) may be described as rare.

Signs.—In epithelioma, the finger in the vagina usually finds the cervix harder than normal even in early stages of the disease. The growth begins either in the mucous membrane lining the cervical canal, or on the vaginal portion of the cervix. If the former, the only fact discoverable by the finger will be an enlargement and hardening of the neck, while the os is enlarged and irregular. Ocular inspection may show nodules within the cervical canal, perhaps covered by an ashy deposit. Their color ranges from pale yellow to dark red, according to the amount of blood infiltration. Their hardness is quite characteristic. The mucous membrane is bound down and immovable. Goodell has suggested that in such a case the introduction of a sponge tent will materially aid the diagnosis.

Says he:

"If the cervix soften down, the os dilate, and the mucous membrane become movable under the expansion of the tent, the disease is probably a benign one. If, on the other hand, the cervix remain hard, its mucous covering immovable, and the os unyielding, the suspicion of malignancy will be confirmed." (*Lessons in Gynecology*, p. 224.)

The uterus meanwhile may remain movable, and scarcely, if at all, enlarged, as the disease extends; while, as a rule, advancing no higher

than the cervical canal, a rough friable mass occupies that passage, which breaking down in the centre, may leave the cervix excavated, so as to form a large cavity extending to the internal os. The edges of this cavity are often sharp, hard and irregular. Pain may still be almost entirely absent.

When beginning at the vaginal portion of the cervix, externally as it were, the epithelioma assumes one of two forms, either appearing as an ulcer with irregular edges and an excavated base covered with ashy-colored detritus, or else taking the form of a fungous mass. This mass of friable, rough granular feel may be spread out over the cervix, or spring from it as a pedunculated outgrowth, forming the so-called cauliflower excrescence. This form when present is sometimes very easily recognized by the fact that it feels as though portions could be broken off. A polypus is usually softer and smoother, and a papilloma is less fragile, less irregular, and may be enveloped by a continuous epithelial coating.

Two cases, seen for the first time within a few weeks of each other, may be cited in illustration, one of fungous-like epithelioma, and the other of fibrous polypus. Both women were beyond the menopause a few years. Both had some bladder irritation and pelvic uneasiness, but no pain. Both had borne children. Both had leucorrhœa. One of them had seen a little blood irregularly, and was pallid. In both, the only abnormal structure discoverable by the finger was a round pedunculated growth of about the size of a walnut, which grew from the cervix. The pedicle in each case was about half an inch through, was distinct, like the stem of a toadstool, but shorter; while the body of the growth in each case was roughened and firm.

Diagnosis of malignancy was made in one case at once, reliance being placed on the following points: The uterus was not normally movable, and was slightly enlarged, as made out bimanually; the pedicle grew directly out of the lower lip of the cervix, and above it could be felt the os distinctly. No other growth would have been situated here. A polypus or a papilloma of that shape would have come out of the os. The whole tumor except the pedicle was covered by nodules the size of those on a blackberry, and was not smooth to the touch. No impression of flexibility or elasticity was conveyed to the finger, the whole growth having that indescribable dense feeling which is easily recognized as belonging to this class of growths.

At the operation, as soon as the lower lip was cut away with the scissors, and the cavity of the cervix thereby opened up, it was found filled with very firm cancerous nodules of the size of a buck-shot, or larger. This, of course, confirmed the diagnosis, but could not previously have been determined, for the os was not dilated at all.

In the other case, however, though the general resemblance was so great, the diagnosis of benign tumor rested on the fact that the pedicle, springing from somewhere within the uterus, came out of the os and expanded as a perfectly smooth stem, covered by smooth membrane, and giving the impression of a tough, homogeneous fibrous structure, which would bend and not break. The body of the growth was resilient, though firm, and indented on the lowest surface like a papilloma. The symptoms did not suggest malignancy, though they did not exclude it. They never do.

But it is in the very early diagnosis of epithelioma that we are most concerned. Though doubted by some writers, as Byford and others, there is very strong evidence to be brought forward in favor of the local and, as it were, traumatic origin of epithelioma. It seems in many instances to be a perverted effort of nature to repair an injury, as has been said by Emmet, and this gives a much greater significance to unhealed and irritated lacerations. Whether the theory of traumatic origin be accepted or not, it is not to be ignored that a man who has given as much attention to diseases of the cervix as has Emmet, should be able to say that he had never seen a case of epithelial cancer in a woman who had not at some time been impregnated.¹ Hofmeier, however, in his statistics of cancer of the uterus, speaks of 39 nulliparæ among a total of 812 cases.

The tendency of cicatrices to become the seat of morbid growths is well-known. The frequency of unrepaired lacerations, and the profound alterations of structure which often follow them, have led to careful microscopical study of the tissues which have been removed in the operations for repair, with the result of finding, as reported by Cushing, of Boston (*Annals of Gynecology*, April and June, 1888, etc.) to the Ninth International Medical Congress, several cases of undoubted cancer, which could not have been diagnosed from glandular hyperplasia and erosion by either sight or touch alone. This author has urged with great pertinency, that some cases of bleeding erosions in women of 50, or thereabouts, are undoubtedly beginning epitheliomata, and as the removal of such surfaces is a slight operation, it is worth doing and may be of the greatest importance. (*Annals of Gynecology*, June, 1888, preliminary article.) This he urges without admitting, as has been claimed by Ruge and Veit, that the transition stages of erosions into epitheliomas may be demonstrated, but the fact remains that some erosions are epitheliomas, and we cannot always tell which. It is unreasonable to say that every erosion should be removed by the knife or scissors, for we know most of them can be cured by proper treatment; but it seems justifiable, to say the least, to remove thoroughly all

those which are stubborn in resisting well-directed treatment.

In doubtful cases, much light may be obtained by removing a wedge-shaped piece for microscopical examination; for while malignancy cannot be thus excluded, it may be found. It cannot thus be excluded, for it has been shown that cases showing clinically evident signs of malignancy, and so diagnosed by excellent authority, still have failed to show typical characters under the microscope. (*Cushing loc. cit.*)

No harm is done by this excision of a piece. The bleeding would be readily controlled by an alum tampon properly inserted at the time, and if the disease should prove to be malignant under the microscope, operation would immediately follow.

ENCEPHALOID CANCER.—The early diagnosis of this disease is rarely, if ever, made. By the time obvious changes have occurred the disease has advanced so far as to have seriously infected neighboring glands and tissues, so that no thought of surgical removal is possible. This is particularly true when the body of the uterus is first involved. The usual point of origin is the lower end of the cervical canal in the submucous tissue. Ulceration destroys the mucous membrane, and vascular granulations appear. The whole cervix becomes hard, irregular and knotty, in a way that is simulated by no non-malignant disease. Irregular friable vegetations spring up and cover the whole lower end of the cervix. These bleed freely on being touched, and exude a watery offensive fluid, like the washings of raw beef. The further progress of the case, the infiltration of surrounding tissues and organs, the breaking down and sloughing, until all semblance of the normal configuration of the parts is lost, need not be here detailed.

Sarcoma of the uterus is not often met with. Its accurate diagnosis, either early or late, is usually impossible without the microscopic examination of a piece of sufficient size to show not only characteristic cells, but their relations to surrounding tissue. Scrapings may not be sufficient. It occurs in two forms: (a) *Circumscribed*, when it strongly resembles fibroid tumor, and constitutes the class formerly known as "recurrent fibroid." (b) *Diffuse*, when it involves the whole uterus, together with surrounding tissues and organs. The cardinal points in the diagnosis of sarcoma are, rapid growth, a few months only at times; cachexia, especially significant where there has been comparatively little loss of blood; extreme pain; the presence of serum in the freely flowing blood (which is not found in non-disintegrating fibroids, but is found in carcinoma); the soft, brittle, brain-like character of proliferating portions, if any can be felt. This separates it from carcinoma. Carcinoma is not so apt to form a circumscribed tumor. But, after all, the

¹ Principles and Practice of Gynecology. Page 509.

² Zeitschr. f. Geburtsh. und Gynäk., vol. x.

practical point is the diagnosis of malignancy, for early removal is the rule in any form of growth.

Scirrhus and myxo-sarcoma present no early signs of individuality which need be considered here.

After all, there remain certain cases in which the early diagnosis of malignancy is practically impossible, and the decision for or against a radical operation becomes a matter of great anxiety to the physician. When the disease is not accessible at the cervix, but begins within the body of the uterus, or even at the internal os, the excision of a piece for examination is not practicable in ordinary cases. One is then obliged to wait, perhaps too long, for some definite guide. Such a case has just been troubling the writer. The uterus is small and soft. Pain is slight and recent. A most intractable pruritus, of two years' standing, is due to the cervical discharge. Except for a lining membrane too dark in color, the lower part of the cervix is about normal in structure; it is excavated, and admits the whole of the first phalanx of the finger, but a peculiar laceration partly, if not wholly, accounts for its patulous condition. The lining of the uterus is smooth, but just at the internal os, beyond the point where the finger-tip stops, the curette finds little elevations, entirely too tough and gritty to make the mind easy. This patient has been closely watched and carefully studied. I shall proceed at once to remove the suspicious tissues, but the decision has not been an easy one to make.

Even later on, diagnosis may not be easy.

In another case at present under the writer's care, the portion of the uterus accessible from the vagina is soft and not nodular. There is no bleeding, and no discharge, pain, or other symptom which cannot be partially accounted for by a well-defined stricture of the rectum and its consequences. Bimannual examination is practically negative, since the true pelvis is choked by a smooth mass cementing in the uterus. The vaginal roof is hard, smooth, unyielding, suggesting the results of a late confinement which had inflammatory sequelæ, but the stricture helps to throw light on the case. Even this is smooth, and not typically cancerous, so that the aggravating word "probable" must go down with the diagnosis of malignancy. Long since did observation show the writer that the brilliant and dogmatic diagnosis of tumors flourishes chiefly in the clinical lecture-room and in the journal reports of just completed operations.

Treatment.—This is, of course, eminently surgical. As in cancer of the breast, not every case of malignant tumor of the uterus is to be operated upon by any means. There is room for the exercise of much judgment. One fact, however, is established beyond all question; it is that years of life and great suffering may be saved by early and radical removal, especially of epitheliomas.

If the operation is not thorough, life is shortened by it, except in the later stages.

If the disease is still confined to the cervix and lower uterine segment, several operations may be made. One of the best is the amputation of the vaginal portion of the cervix (Schroeder so far), and then with a knife cutting out a cone-shaped piece from the body of the uterus, including the canal, following with the Paquelin cautery. This is the operation of Baker, of Boston. Emmet uses scissors, knife, and curette with Simon's spoon, to shell out the diseased tissue, and then, as far as possible, draws mucous membrane over the raw surfaces by stitches. Most operators apply either the Paquelin cautery or, as recommended by Marion Sims, chloride of zinc as a caustic, after as much tissue as possible has been cut away. The dangers after such operations are from hæmorrhage and septicæmia, but the mortality is small. There is a very strong ground for belief that the actual cautery lessens the risk of subsequent development of disease. It certainly retards it more than the knife if all is not removed. Total extirpation of the uterus is coming into prominence in this connection, and statistics are rapidly accumulating. By the use of compression forceps for the lateral vessels, instead of ligatures, the mortality of the operation has been enormously diminished in good hands, but the place of the operation in surgery of the uterus has not yet been definitely settled. There is very little to show its advantage in ultimate results over Schroeder's method of high amputation of the cervix, where the disease usually lies, especially if followed by clearing out the interior of the uterus, as advocated by Baker, of Boston. If the disease is just beginning, the safer operation is just as thorough. If the disease is further advanced, to remove the entire uterus is not to remove surrounding infected glands and tissues, and there are no statistics which show conclusively that the liability to return is less than in the other operation. On the contrary, while recent methods of total extirpation have undoubtedly greatly reduced the risk of death from the operation itself, and while as long a series as thirty without a death has been reported in one institution, the University Frauenklinik, at Berlin, yet a consideration of the after-history of these patients is strongly in favor of a partial operation.

Taking from Hofmeier's reports, 129 operations of both varieties at this hospital as available for study, because their after-history could be traced, it is found, as stated by Lusk,¹ that at the

end of the first	year, 51	per ct. of the partial	cases remained well.
" second	46	"	"
" third	42	"	"
" fourth	41.3	"	"

¹ American System of Gynecology, ii p. 630.

Again, at the

end of first	year	63.6	per ct. of the complete cases remained well.
" second	"	24.1	" " " " " "
" third	"	26	" " " " " "
" fourth	"	not one living complete case remained.	

So, while brilliant operators, whose death-rate from the operation remains low, may be expected to advocate total extirpation of the uterus, it is likely that the majority of gynæcologists who are more interested in the freedom from recurrence than in the operation mortality, will await the evidence of further experience, now rapidly accumulating, before giving preference to this operation.

When, at the time of discovery, the uterus is found fixed, the vaginal vault infiltrated, and evident involvement of parts which cannot be removed; it is not wise to interfere, unless there be extensive hæmorrhage, extreme pain, or septicæmia from absorption of necrotic material. The same rule holds here as in cancer of the breast; there is an intermediate period, between an early and a late stage, when the highest good of the patient is to be secured by letting well enough alone; correcting fetor by injections of potass. permang., creolin, or hydronaphthol, lessening hæmorrhage by alum or dilute sub-sulphate of iron injections, maintaining the general strength as far as possible by strict attention to the problems of nourishment and good hygiene; securing sleep and comfort by chloral locally or opium by suppository, and waiting. There comes, however, a third stage, when surgical interference may be of great service. When the strength is being rapidly reduced by discharge, by severe hæmorrhage, or by septicæmic fever, the patient should be etherized, and the vegetations rapidly removed by curette or spoon, down to firm, if not sound tissue. A thorough application of the thermo-cautery will then not only arrest hæmorrhage, and lessen the subsequent danger from it, but will check further growth for a considerable time. During the curetting bleeding will be free, but this should be carried on boldly and rapidly until the vegetations have been removed, when it will either cease or be checked by the thermo-cautery. A tampon saturated with some styptic, such as alum, should, however, always be inserted after the operation, and the vagina filled with antiseptic non-absorbent cotton or strips of gauze. This will lessen the risk from sudden hæmorrhage, in the absence of the physician, and should be removed and replaced at proper intervals for several days. It is surprising how much temporary relief will follow for awhile, and existence is often made comfortable for a month or more, while the risk is very small.

For *cleansing purposes* in the general conduct of a case, an experience of a considerable number of cases in the cancer annex of the Home for Incura-

bles, among the out-patients of the University Hospital, and the St. Clement's Dispensary, as well as in private practice, leads to the preference of permanganate of potash solution. It is cheap, non-poisonous, unirritating, and effective. Creolin is now on trial, so far with very satisfactory results.

Hæmorrhage, if not controlled by alum, or other astringent, may often be arrested by pressure so applied by tampon as to bear directly upon surfaces, and not slide over them. If very considerable, it will call for the use of the curette and the hot iron.

For *pain* antipyrin has not proved very satisfactory, though not extensively tried. In one case it gave great relief to general nerve pains, but did not greatly affect the cancer pain. Cocaine is, of course, too transitory and too superficial in action.

Nothing will take the place of opium, guarded by atropia, in the relief of decided pain. Other drugs give much help in insomnia and restlessness when not caused by definite pain from nerve involvement. The opium habit when at length formed, and it may by care be long deferred, is by far the less among evils. No definite improvement in the case, as a whole, has ever seemed to follow the use of drugs given for the disease itself.

A *summary* may be made as follows:

a. Early diagnosis is all-important, and should not be deferred until gross changes have occurred.

b. Examination should follow slight suspicions from the treacherous character of the symptoms. If not conclusive, it should be made by a trained hand.

c. The microscope will sometimes detect before other means will.

d. Heredity is a doubtful cause, traumatic origin very probable.

e. Lacerations of the cervix, where the growths usually begin, should be repaired if causing irritation, and erosions should be cured. If erosions are stubborn, or otherwise suspicious, they should be pared off.

f. In epithelioma especially, the disease is at first local, and if taken early complete immunity is secured sometimes, and always great saving of time and suffering.

g. From an operative point of view, there are three periods in any form of malignant disease.

1. Early, when operation should be immediate and as radical as possible, without extirpation of the uterus.

2. Intermediate when, eradication being impossible, nothing should be done unless demanded by severe hæmorrhage or extreme pain. The length of this period is indefinite, and depends on the rapidity of growth.

3. Late, when scraping and burning may be done repeatedly, to palliate symptoms and retard growth.

DR. W. W. KEEN reported a case of

SIMULTANEOUS AMPUTATION OF BOTH ARMS;
RECOVERY.

For the notes of this case I am indebted to Dr. J. C. Heisler, then surgical interne at St. Mary Hospital, and is put upon record as a contribution, at least, to the statistics of multiple amputations.

Paul K., æt. 15 years, was run over by a street car, at 5 o'clock, P.M., on November 13, 1887. He was admitted to St. Mary's Hospital two hours later. The right hand, forearm and elbow, as well as the left hand and lower part of the forearm, were crushed; both clavicles, also, were fractured.

The boy had lost a great deal of blood before his admission, and was in profound shock when admitted; so grave was his condition that it was doubtful whether he would live through the night.

My colleague, Dr. J. B. Roberts, saw him late in the evening, and ordered whisky and digitalis.

At 10.45 P.M. his temperature was 97°; his pulse 120.

The next morning the temperature was 102.5°; pulse 142. At 1 o'clock P.M. his condition was very grave, but, as he had rallied from the shock, I decided to give him the only chance of his life by amputating both arms. The right arm was amputated below the insertion of the deltoid; the left forearm at its middle. The moment that the first amputation was done, during the dressing of that arm by my assistants the second was proceeded with, so as to lose as little time as possible. He bore the ether badly, and his pulse at times was almost imperceptible. Almost no blood was lost during the operations, the arm being Es-marched above, but not including, the crushed parts. Of course, the most careful antisepsis was carried out. There was no need for hot bottles, etc., as his temperature was well maintained. From the time of the operations his recovery was a perfectly steady one. For the first three days the morning and evening temperatures were about 100° and 102° respectively. From that time on it fluctuated between 99° and 100°, reaching the normal by the tenth day.

On the third day after the operation the anterior flap on the left forearm began to slough; by the end of a week a piece 2 inches transversely by $\frac{1}{2}$ an inch in the axis of the limb was completely separated. The gaping wound now exposed the end of the radius covered with granulations springing from both the periosteum and the medulla. In order to promote adhesion of the flaps extension was applied to them by means of adhesive strips, on which traction was made by a rubber band. This band extended to the end of a straight splint applied to the forearm, counter-extension being maintained also by adhesive plas-

ter which was tacked to the upper end of the splint. At the end of two weeks the lips of the wound were united, and the splint was taken off. The right stump healed kindly, all the sutures being removed by the twelfth day. The boy was up ten days after the operations, and was sent home six days later to come to the hospital as an out-patient until he was entirely well. He was finally discharged at the end of January. Two small circular sequestra separated from the ulna and the radius of the left stump, and were removed January 9th and 24th. The recumbent posture was the only treatment used for the fractured clavicles. They united very well, and with but little deformity.

DR. E. P. BERNARDY reported a case of

UNIQUE PRESENTATION OF A FŒTUS.

The patient who gave birth to this child was a primipara, æt. 18 years. I saw the case for the first time at 8 o'clock, April 8, 1889; the membranes had been ruptured four hours, the fœtus was presenting in the right oblique diameter; the presenting part seemed to be the breech, the right side deeper in the pelvic cavity than the left; the fingers could be hooked in what appeared the groin, but did not have the full feeling one would expect in breech. A sort of sulcus or fissure was in the centre of the presenting part. Passing the fingers further upward, the bone of the skull was detected. I thought that I had a double pregnancy, the breech of one presenting, and the head of the other imbedded in the chest of the first. External palpation showed the uterus divided in two by a deep dent in its fundus, a large body occupying the upper left portion, and a body occupying the lower portion of the right side.

I did not introduce my hand into the vagina, for the maternal parts (vulva) were rigid, and had not undergone any softening, and such examination would have undoubtedly caused a rupture of the perineum; the os was spasmodically contracted around the presenting part. The patient not having much pain, and having to deliver a hydrocephalic case, I left her for about two hours. On my return, the entire portion which you here see, was grasped by the vulva, and the child was delivered in this position. It will be seen that both shoulders presented fair and square, the neck, somewhat stretched, thrown forward on the chest, and the head, slightly twisted sideways, laying in a cavity in the chest; the arms laid on the top of the chest, right and left side, the head between. There was hardly any pain connected with the confinement.

This is a rare case; I cannot recall an instance of a similar presentation.

(To be concluded.)

FOREIGN CORRESPONDENCE.

LETTER FROM LONDON.

(FROM OUR REGULAR CORRESPONDENT.)

Proposed Hospital for the Study and Curative Treatment of Insanity—Compressed Gas for the Removal of Warts—Experiments with Massage—The Medical Aspects of Life Insurance—Hysteria in the Male Identical with the Disease as seen in Women.

On the motion of Mr. Brudenell Carter the London County Council has appointed a committee "to inquire into and report to the Council upon the advantages which might be expected from the establishment, as a complement to the existing asylum system, of a hospital, with a visiting medical staff, for the study and curative treatment of insanity." The report of the committee will be awaited with much interest by all who devote attention to this most painful subject. It is thought that the authorities of the existing asylums are so much engaged in administrative work that they have little time for scientific study. In the proposed hospital, the primary duty of the visiting medical staff will be to investigate the conditions of insanity and to discover, if possible, more effectual remedies than any that have yet been found for one of the most grievous of human maladies. It is to be hoped that the suggestion as to a hospital will receive most thorough consideration, and that the committee will take care to obtain the very best advice that can be offered by the medical profession.

Dr. Benjamin W. Richardson, ever foremost in practical scientific medicine, has made a suggestion which is as interesting as it is novel. It is to use a jet of highly compressed gas as a cautery. It is known that accidents occur to workmen sometimes in factories where compressed gases are prepared or employed by such a jet impinging on any part of the body, and causing an injury of the same nature as a burn. Dr. Richardson turns this property to account, and suggests its employment for the removal of warts and small pendulous growths. It does not appear that he has carried out the idea in practice, but he intends shortly to do so. He points out its advantages over the cautery, heated wire or knife, in that it is less alarming and for the moment painless, as cold is an anæsthetic. He enumerates the gases which might be used and specifies chlorine as no doubt most effective. He, however, gives the palm to carbonic anhydride (CO_2) as most manageable, cheap, almost inodorous, not unwholesome and not inflammable, so that it can be used with artificial light. It is now a little over twenty years since Dr. Richardson introduced ether spray as a means of producing local anæsthesia. It remains to be seen whether the present suggestion

may not lead to an equally important weapon in the armory of the surgeon.

A medical man has kept four students under observation while they underwent a daily course of massage for twenty minutes. All four methods, viz.: effleurage, pétrissage, friction and tapotement, were brought into play at each operation. The general result was that in every case the appetite showed considerable improvement, not merely during the week in which massage was performed, but during the week following as well. Two of the patients increased in weight in the course of the week's massage, while two decreased; but, curiously enough, all showed a marked increase during the subsequent week. In every instance it was observed that the respiration became fuller and more frequent, while the beating of the pulse increased in rapidity when effleurage was in progress, decreasing when pétrissage was substituted.

For four nights Dr. E. Symes Thompson, the Gresham Professor of Medicine, interested as many people as the theatre of Gresham College would hold while he lectured to them on "The Medical Aspects of Life Assurance." Speaking on the insurance of young infants, the doctor said that certain offices existed which insured very small babies in such a manner that a very great temptation was put upon the guardians or parents of the children to hasten them out of the world. It was curious to note that in the places where mortality among infants was exceptionally high, the desire of parents to insure their children was very pronounced. As showing the enormous advantage that the totaller has of living long as compared with the general body of mankind, the doctor exhibited two statistical tables—one of the Rechabites and the other of the Oddfellows, from which it appeared that among the Rechabites the average sickness per annum was four days, the death-rate was one in 141, and the weekly payments were 5s. 9½d., while among the Oddfellows the average sickness was thirteen days, the deaths averaged one in 44, and the weekly payments amounted to 13s. 1d. What made the contrast more remarkable was the fact that the Rechabites admitted females as members, while the Oddfellows would have nothing to do with the ladies.

Dr. Adami considers that, for all practical purposes, hysteria in the male is identical in its manifestations with the disease as seen in women. He divides the cases into two classes, the first including those cases which were complicated by the occurrence of the so-called hystero-epileptic attacks, though, as suggested by Sir William Roberts, hysteroid attacks would be a better term. The second group consists of those attacked by hysterical hemiplegia or paraplegia. The male hysteric was rarely so emotional as the female; most often he is rather phlegmatic than emotional, and in him the attack of "grand hys-

teria" rarely or almost never, even in France, passed on to that series of exaggerated portrayals of emotions which Charcot had described as occurring in the most advanced female hysteroid-epileptics. The most usual period for hysteroid fits in the male is from 18 to 22. In the second class of male hysterics there might occur almost every variety of mono- or hemi-paraplegia, aphonia was frequent, though the face was not affected. There might be contractures, with diminished or increased tendon reflexes, various forms of anæsthesia and hyperæsthesia, and vaso-motor disturbances with affection of the muscular sense and the special senses, notably retraction of the field of vision. Such cases most frequently resulted from injury, notably railway accidents, though not a few, as in women, were apparently related to disturbances of the generative function.

Dr. Horatio Donkin has married the widow of Professor E. H. Palmer, the distinguished Orientalist and traveler. Dr. Donkin, it may be remembered, was Professor Ray Lankester's principal assistant in the exposure in 1876 of Dr. Slade, the Spiritualist.

Medical men in general are probably not aware that in France, at least, the doctor's claim on the estate of a deceased patient has precedence of all others. Even the landlord's claim for arrears of rent must yield to the doctor's fee. The courts have recently decided that, as it is an imperative right of humanity that the dying should have the necessary care and treatment, such attendance should be paid for before all the other debts.

A £10,000 fee has, it is stated, been given to Dr. Freyer, a surgeon in India, for his successful treatment of the Nawab of Rampur.

Trichina in muscle can be detected, it is stated, by placing thin slices of the suspected meat in a test tube with pepsin, water, and a little hydrochloric acid. After a few hours' digestion in a warm place, the parasite will become so loose and prominent that it can be easily picked out with a needle and identified under the microscope.

An obituary announcement in a daily paper recently included the remark that E. P. wishes to express his thanks to the Superintendent of the hospital and the many doctors who attended him during his last illness.

G. O. M.

DOMESTIC CORRESPONDENCE.

shall the Section of Obstetrics and Diseases of Women be Abolished?

Dear Sir:—At the last meeting of the Association a member introduced an amendment to the By-Laws looking to the abolition of the Section of Obstetrics and Diseases of Women; relegating

the former branch to the Section of Pediatrics, and the latter to the Section of Surgery. Inasmuch as the proposed amendment will be acted upon at the approaching meeting at Newport it should receive very careful consideration, and particularly since it involves a radical change in the working organization of the Association. That such consideration may be had I beg to direct attention to a few facts bearing upon the action contemplated by the amendment indicated.

The Section of Obstetrics and Diseases of Women has for a number of years been one of the most largely attended and most active of the various Sections of the Association. The papers annually presented there come from all parts of the Union, by men eminent in these departments of medical science, and a large number of practitioners annually attend and participate in the discussions. The programme of this Section, as published for the approaching meeting, is the largest in number of papers and most comprehensive in the range of subjects of any of the Sections, embracing forty-eight (48) papers, many of the authors being of National, and some of worldwide reputation. Hence it cannot be justly claimed that the Section as now organized is wanting in efficiency. Let us then consider some facts bearing upon the relation of obstetrics and gynecology, which naturally associate these two departments scientifically and practically, and which, at the same time, show that the separation would necessarily impair the cultivation of both by the members of the American Medical Association.

The intimate relation and connection of these two branches has long been recognized in our system of teaching, both in this country and in Europe; in practice, in medical literature, and in the organization of societies, local and national. In most medical schools in America and Europe the two branches are taught jointly. *The American Journal of Obstetrics* and *The Annals of Gynecology* are devoted to the joint cultivation of these associated departments of medical science and practice. The American Gynecological Society, and that energetic organization recently instituted, the American Association of Obstetricians and Gynecologists, not to mention the Obstetrical Societies of Philadelphia, of New York, of London, and other cities attest the same fact.

Not only are these branches united in our system of education, in our literature, and in our society organizations, but in practice. One of the most distinguished of American laparotomists is the Physician-in-Charge of a model maternity hospital, and almost all American gynecologists are connected with public obstetrical services. In many of the most admirable European institutions the obstetrical and gynecological departments are under the same roof and conducted by the same

head.¹ In private practice most of the leading gynecologists are habitually engaged in obstetric practice as attendants and consultants.

But there are weightier reasons still why this important Section of the Association should not be divided. The greatest triumphs of modern obstetric science and the most important improvements in obstetric practice consist in the application of the principles of abdominal surgery to the lying-in woman. The technique of modern obstetric practice and that of pelvic surgery are formulated upon the same principles and require the same line of study and training for their mastery. The woman after labor is exposed to the same great danger of sepsis as the woman after ovariotomy. To execute the improved Cæsarean section requires all the skill and knowledge essential for the most difficult intra-abdominal operation and a thorough familiarity with pregnancy and the puerperal state.

Most of the operations in gynecology are for conditions the result of, and directly connected with, pregnancy and parturition, and of necessity involve thorough knowledge of those conditions.

For these reasons both the study and practice of obstetrics and gynecology must remain so correlated that they can only be successfully cultivated conjointly. To abolish this Section of the Association, now so successfully conducted, would scatter the members into other crowded Sections, and do the cause of science and the Association serious injury.

* * *

MISCELLANY.

THE CRONIN ASSASSINATION.—The Chicago Medical Society adopted the following resolution at a meeting at the Grand Pacific Hotel June 3d:

WHEREAS, Dr. P. H. Cronin was recently decoyed from his office and assassinated; and

WHEREAS, Dr. Cronin, although not a member of the Society, was a regular member of the profession, of recognized ability;

Resolved, That the death of Dr. Cronin, occurring as it did, while the Doctor was in the intent of extending to a sufferer the benefices of our art, is a matter of deep regret to the members of the Society; and

Resolved, That the Secretary be instructed to extend to the relatives and immediate friends of the deceased the sympathy of the fellows of this body.

THE 75,000 EXTRA EDITION.—The "Extra Edition" of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION has come to us full of interest and information. In a special article by Dr. Wm. G. Eggleston, of Chicago, it gives a tabulated list of the various medical colleges in the United States, their date of organization, matriculation and graduation requirements, etc., and adds facts which deserve the notice and careful consideration not only of practitioners, but students of medicine, and those contemplating entering this field of professional life. Much is being said upon the subject herein treated, the

laudable intent of which is to elevate the standard of medical education throughout our country, and we add our voice to the movement, hoping that some steps may be adopted which may at once check the increasing tendency of many little competent and poorly prepared to undertake a work of so great importance and responsibility as the practice of medicine, and aid our colleges, while denying none worthy, in sending out only graduates well equipped for the sacred duties of physicians.

THE JOURNAL announces the annual meeting of the American Medical Association to be held at Newport, R. I., June 25, 26, 27 and 28, giving a programme of the same, and adds attractive views illustrating this beautiful city by the sea. We join in wishing that the convention may be as pleasant and profitable as those of the past.—*The Atlanta Medical and Surgical Journal*.

POSTPONEMENT.—The Annual Meeting of the Pennsylvania State Medical Society has been postponed until the first Tuesday in September in consequence of the recent disastrous flood in the Conemaugh Valley.

THE MCLEAN COUNTY (ILL.) MEDICAL SOCIETY.—This Society met in regular session at the office of Drs. Darrah & Corley June 3d. There were present, Drs. H. Parkhurst, T. W. Keys, G. R. Smith, H. A. Winter, F. J. Parkhurst, N. F. Jordan, J. B. Taylor, A. T. Darrah, W. A. Elder, L. E. Spear, C. J. Corley, F. J. Welch, W. H. Reedy, W. L. Pollock, C. C. Sater, H. F. Ballard. The session was devoted to a discussion of the physiological action of antifebrin and antipyrin. The discussion was general and very interesting. It was conceded by all that these new remedies were not only useful as antipyretics, but were of much value in a variety of diseases, especially those of a rheumatic and neuralgic character. The fact was developed that the remedies under consideration were powerful sedatives and required great caution in their use. Dr. Rhoda Galloway, a graduate of the Woman's Medical College, Chicago, was elected to membership. Dr. J. B. Taylor extended an invitation to the Society to attend the commencement exercises of the Wesleyan University, June 13, to hear the address of Dr. M. L. Fullinwider, of Eldorado, Kan. The invitation was accepted, and the Society voted to attend as a body. The application of Dr. H. F. Ballard, of Chenoa, for membership, was received and referred to the Board of Censors. The President appointed Drs. J. B. Taylor and C. J. Corley as essayists for the September meeting, and the Society adjourned to meet the first Monday in September.

THE meeting of the Mitchell (Ind.) District Medical Society will be postponed till July 18, 19 and 20th, at West Baden, Ind., on account of the meeting of the American Medical Association.

IN the Bombay Presidency no fewer than 1,168 human beings were destroyed by snakes during 1887, and over 300,000 venomous snakes were destroyed.

THE ODOR OF SOUND MEAT.—In the normal state the flesh of every animal has its own characteristic odor. Beef has a special insipid kind of smell, modified by the different modes in which the animals have been fed. Thus it is stated that the flesh and milk of cattle in the polar regions has a fishy odor, because the absence of pasturage obliges the inhabitants to feed their oxen and cows on fish. Veal smells of milk, mutton of wool and sometimes grease. The normal odor of pork is insipid and inoffensive, but when the pigs are fed on offal the flesh has a pale cachectic hue, and an offensive smell and taste. The odor of poultry fed on corn differs from that of poultry artificially fattened. In a diseased state, meat emits a typical odor resembling the breath of feverish patients. This odor is particularly noticeable beneath the shoulder, and in the muscles of the inner side of the leg. The odor should be carefully noted immediately

¹ For example, the admirable Frauenklinik conducted by Professor Freund, in Strassburg, and that by Professor Winckel, in Munich.

after the incision is made. This should be done by the inspector himself. When diseased meat is roasted it emits a strong and offensive smell. The fever odor is particularly marked in the case of animals which have suffered from peritonitis, charbon, morbid symptoms following parturition, or with ordinary acute disease. In such cases the smell is recognizable at once, and it is unnecessary to make any incision. "Feverish" meat is always unfit for consumption.—*The Annals of Hygiene.*

THE MERCURY SALTS are among the most important of the substances affected by actinic light. The conversion of the *mercurous*, or non-poisonous, to the *mercuric*, or poisonous salts, is likely to be attended with fatal results, when the change has been sufficiently great. Calomel, therefore, should be kept in amber bottles away from light to prevent its being converted into the poisonous corrosive chloride.

DEATH OF WARREN DE LA RUE.—*The National Druggist* says: This man, noted alike as an astronomer, chemist, electrician, physicist, photographer, and pharmacist, and as an investigator and writer in almost all domains of scientific research, died at his home in Guernsey, April 19, aged 74 years. In his early years he succeeded his father as the head of the Paris manufacturing house of Thos. de la Rue & Co., and continued in this position until 1880, when he retired. His published works embrace almost the entire domain of science. In pharmacy his greatest, or at least best known, were his investigations of cochineal and (in conjunction with Müller) of rhubarb and its constituents, and to him, with Müller, belongs the discovery and isolation of chrysophanic acid. The notice of his death in the *Pharmaceutical Journal and Transactions* says: "But his name is most associated with the application of photography to the recording of celestial phenomena, on which subject he produced a large number of papers. In connection with Dr. Müller, also, he carried on a series of investigations upon the electrical discharge, using a battery of 15,000 chloride of silver cells, the results of which were given in a collected form in a lecture at the Royal Institution in 1881. Amongst the many honorary posts filled by Mr. de la Rue may be mentioned those as honorary Secretary, and afterwards President of the Astronomical Society, President of the Chemical Society for two separate periods, President of the London Institution, and Secretary of the Royal Institution. In addition he was a member of numerous foreign learned societies.

LETTERS RECEIVED.

Dr. R. J. Duglison, Philadelphia; Dr. S. T. Armstrong, U. S. M. H., Stapleton, N. Y.; Dr. E. S. McKee, Cincinnati; Dr. Herbert B. Allevy, Philadelphia; Drs. Lewis & Thompson, St. Louis; Dr. A. W. Mann, Oak Grove, Mo.; Dr. J. O. Dawson, Lincoln, Neb.; Dr. W. D. McGowan, Ligonilla, Pa.; Dr. B. Weltner, New York; Dr. G. H. Gibson, Breckenridge, Col.; Dr. Hugh Hanna, Prosperity, Pa.; Frank, Kiernan & Co., New York; Trommer Extract of Malt Co., Fremont, O.; Dr. L. S. McMurtry, Danville, Ky.; Lambert Pharmacal Co., St. Louis; Sanitarium, Battle Creek, Mich.; Dr. Chas. F. Disen, Minneapolis; Johnson Elliot, Washington; F. A. Davis, Philadelphia; Dr. Sauerhering, Wausau, Wis.; Dr. J. W. Smith, Pilot Point, Tex.; H. N. Jarchow, New York; Dr. W. J. Asdale, Pittsburgh; Dr. J. M. Dunham, Columbus, Ohio; Dr. C. P. Frost, Hanover, N. H.; Dr. Karl von Ruck, Asheville, N.C.; E. Bair, Louisville, Ky.; J. L. VanSchoick, Perrineville, N. J.; Dr. G. W. Burton, Mitchell, Ind.; Upjohn Pill and Granule Co., Kalamazoo, Mich.; Dr. O. Eastland, Wichita Falls, Tex.; Dr. J. M. Farrington, Birmingham, N. Y.; Dr. H. Longstreet Taylor, Cincinnati, O.; Dr. John B. Meazie, Claypool, Ind.; Joseph Swindell, Washington.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 25, 1889, to May 31, 1889.

By direction of the Secretary of War, Major John S. Billings, Surgeon, is authorized to make, in connection with his duties as supervisor of mortality and vital statistics of the eleventh census, such journeys as may be ordered by the superintendent of the census, provided that, in each case, the approval of the Surgeon-General shall be obtained; and provided further, that the journeys shall involve no charge against the fund for transportation of the Army. Par. 12, S. O. 122, A. G. O., May 27, 1889.

Major Henry McEldeery, Surgeon U. S. A., is granted leave of absence for one month, to take effect upon completion of his duties as a member of the Army Medical Examining Board in New York City. Par. 4, S. O. 117, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, May 23, 1889.

Major J. H. Patzki, Surgeon, is granted leave of absence for twenty-one days. Par. 1, S. O. 44, Hdqrs. Dept. of Ariz., Los Angeles, Cal., May 18, 1889.

Capt. Paul R. Brown, Asst. Surgeon, is granted leave of absence for six months on account of sickness, by direction of the Secretary of War. Par. 13, S. O. 122, A. G. O., May 27, 1889.

Capt. Walter W. R. Fisher, Asst. Surgeon, leave of absence for one month granted by S. O. 30, c. s., Dept. of California, is extended fifteen days. Par. 3, S. O. 37, Hdqrs. Div. of the Pacific, San Francisco, Cal., May 22, 1889.

First Lieut. Ogden Rafferty, Asst. Surgeon U. S. Army, ordered with troops for field practice to Galveston, Texas, where troops will camp for such time as may be hereafter directed. Par. 1, S. O. 29, Hdqrs. Dept. of Texas, San Antonio, Tex., May 13, 1889.

By direction of the acting Secretary of War, First Lieut. James D. Glennan, Asst. Surgeon, is relieved from duty at Willett's Point, N. Y., to take effect June 1, 1889, and will proceed to Ft. Riley, Kan. Par. 5, S. O. 121, A. G. O., May 5, 1889.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending May 25, 1889.

Surgeon W. H. H. Hutton, to proceed to New Orleans, La., and inspect unserviceable property. May 25, 1889.

Surgeon George Purviance, detailed as chairman Board of Examiners. May 22, 1889.

Surgeon H. W. Austin, detailed as member Board of Examiners. May 22, 1889.

Surgeon John Godfrey, detailed as recorder, Board of Examiners. May 22, 1889.

P. A. Surgeon John Guitéras, resignation accepted, by direction of the President, as tendered, to take effect April 30, 1889. May 11, 1889.

P. A. Surgeon S. T. Armstrong, granted leave of absence for thirty days. May 11, 1889.

STATE MEDICAL ASSOCIATION MEETINGS IN 1889.

STATE	SECRETARY'S NAME AND ADDRESS.	TIME AND PLACE.
Colorado.	H. W. McLaughlin, Denver	Denver, June 18.
Dakota.	H. E. McNutt, Aberdeen	Mitchell, June 20.
Delaware.	J. E. Ellegood, Laurel	Dover, June 11.
Maine.	C. D. Smith, Portland	Portland, June 11.
Massachusetts.	F. W. Goss, Boston	Boston, June 11.
Minnesota.	C. B. Wetherle, St. Paul.	Minneapolis, June 20.
New Hampshire.	G. P. Conn, Concord	Concord, June 18.
New York.	E. D. Ferguson, Troy	New York, Sept. 25.
Oregon.	C. C. Strong, Portland	Portland, June 11.
Rhode Island.	G. D. Hershey, Providence.	Providence, June 13.
Vermont.	D. C. Hawley, Burlington.	Burlington, June 27.
Virginia.	L. B. Edwards, Richmond	Burlington, Oct. 10.
West Virginia.	J. L. Fullerton, Charlestown	Roanoke, Aug. or Sept.
		W. Sulphur Springs

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ORIGINAL ARTICLES.

THE COMPARATIVE RESULTS OF LITHOTOMY, LITHOLAPAXY AND LITHOTRITY IN ONE HUNDRED OPERATIONS FOR STONE.

BY EDMUND ANDREWS, M.D., LL.D.,

PROFESSOR OF CLINICAL SURGERY IN CHICAGO MEDICAL COLLEGE,
AND SENIOR SURGEON OF MERCY HOSPITAL.

The new instruments and modified methods introduced by Bigelow, of Boston, for crushing and evacuating vesical calculi seemed at first dangerously severe. In litholapaxy one must often work with his instruments in the bladder for more than an hour, and it naturally impressed surgeons as a rash and perilous procedure. I confess to having felt strong fears in this direction, and many other surgeons were even more timid in the matter than myself. Prof. Paul F. Eve seems to have avoided the new plan almost entirely, and Prof. James R. Wood, of New York, shortly before his death, showed me his collection of vesical calculi, and informed me that he had just cut for stone the ninetieth time, and had never crushed in a single instance.

However, experience soon showed that the bladder is far more tolerant of even a whole hour or more of careful instrumentation, which thoroughly clears it of debris, than of incision, or of repeated brief crushings which leave a mass of sharp-angled fragments in the cavity for days together. In short, the danger of litholapaxy has proved, in my practice, decidedly less than that of the old style of lithotrity, or of lithotomy. All hesitation has vanished. I have now operated for stone one hundred times; fifty-five times by cutting, with seven deaths; six times by the old style of lithotrity of Civiale and of Sir Henry Thompson, with one death; and forty times by Bigelow's litholapaxy, with one death. The following is a summary of the cases:

SUMMARY.

Total number of cases of lithotomy, 55; deaths, 7; mortality 13 per cent.

Lithotomy below age of puberty, cases, 26; deaths, 2; mortality 8 per cent.

Lithotomy above age of puberty, cases, 29; deaths, 5; mortality 17 per cent.

Lithotrity after the manner of Sir Henry Thompson, cases, 6; deaths, 1; mortality 17 per cent.

Litholapaxy after the manner of Prof. Bigelow, cases, 40; deaths, 1; mortality 2.5 per cent.

Of the 101 operations above tabulated, two only were upon females.

It will be observed that the total number of operations in the tables is 101, instead of 100. This is in consequence of including one litholapaxy in addition to those performed with my own hands, which was done on a hospital patient by my colleague in my temporary absence.

The increase of safety by the introduction of litholapaxy is immense, and, in my opinion, almost all adult operations for stone in the bladder should be done by this method. However, let no man delude himself with the notion that this rule has no exceptions. The following classes of cases still require the cutting operation:

1. All children whose urethra are too small to admit small-sized lithotrites.

2. All cases where the stone is too large to be grasped by the instrument. Case 14,714 was of this character. Having a diameter of 9 centimetres, the jaws of the instrument could not grasp it, and I was obliged to proceed by suprapubic lithotomy. The peculiarities of this case give it special interest. It turned out that there was a thick mass of connective tissue indurated by inflammation between the bladder and the upper border of the pubis. I first introduced into the bladder the French instrument called the *sonde à dard*, in order to use it as a guide to the suprapubic incision. It is made like a strong silver catheter, but carries in its canal a curved steel dart or stiletto with a groove on its surface. The operator inserts it into the bladder and, pressing the tip against the front of the viscus, pushes the dart forward till it pierces the tissues and appears in the bottom of the primary incision. The bistoury is then entered into the groove and guided by it into the bladder. In this case the dart would not pierce the tough mass of tissue, and I was obliged to go in with the scalpel alone. I finally found the cavity with the stone in it, well back against the rectum, after a dissection of alarming depth, and then extracted the immense calculus without further difficulty.

3. In a few cases mulberry calculi are so hard

LITHOTOMY.

No. of Case in Record.	Sex	Age, Years	Description of Stone.	Operation.	Result.	REMARKS.
54	Male.	7	Triple phosphate, diameter $3 \times 4\frac{1}{2}$ cm.	Lateral lithotomy.	Died.	Septicæmia; this was before the advent of
20	"	35	Phosphatic diam. 3×5 cm.	"	Cured.	[antiseptic methods.
271	"	11	" " " " cylindrical form	"	"	Discharged in 30 days.
1,294	"	5	" " " " "	"	"	Discharged in 42 days.
1,729	Fem	55	" " " " "	Cut forward to pubis and then to left.	"	Partial incontinence followed.
1,746	Male	65	" " " " "	Lateral lithotomy.	Died.	Sinking with exhaustion before operation.
1,755	"	35	" " " " "	"	Cured.	[Some hæmorrhage.
1,766	"	6	" " " " "	"	"	"
1,783	"	35	" " " " "	"	"	Discharged in 25 days.
1,785	"	5	" " " " "	"	"	"
1,789	"	7	" " " " "	"	"	"
5,176	"	20 mos.	" " " " "	"	"	" [after operation.
5,700	"	12	" " " " "	"	Died.	Lived in septic apartments. Died 77th day
5,176	"	2	" " " " "	"	Cured	Had cystitis from birth. Stone supposed to
6,060	"	3	" " " " "	"	"	exist before birth.
6,151	"	35	" " " " "	"	"	"
6,550	"	52	Two calculi	"	"	Two calculi. Went home in 21 days.
6,536	"	"	Mulberry calculi, weight 13 grams	"	"	Discharged in three weeks.
6,930	"	"	Phosphatic, diam. 3 cm.	"	"	Discharged in four weeks.
7,017	"	40	Two phosphatic calculi	"	"	Discharged in four weeks.
7,526	"	4	Two small calculi	"	"	"
7,709	"	2	Diameter, 4 cm.	"	"	Discharged in four weeks.
7,693	"	5	Phosphatic calculi, diam. 3×4 cm.	"	"	Discharged in three weeks.
8,497	"	55	Phos. calculi, combined wt. 176 grams	"	"	Discharged in six weeks
8,515	"	11	Calculus in memb. portion of urethra 5 cm. long	"	"	"
8,535	"	23	" " " " "	"	Died.	Lived eight days.
8,584	"	7	" " " " "	"	Cured.	"
7,626	"	4	Diameter 4×5 cm.	"	"	"
7,628	"	14	Mulberry, diameter 3 cm.	"	"	"
7,721	"	35	Phosphatic, diameter $5 \times 5\frac{1}{2}$ cm.	"	Died.	Bladder ulcerated and bled freely from its
8,727	"	25	" " " " " 4x5	"	Cured.	[coats.
6,024	"	2	" " " " " small	"	"	[erated cavity below prostate.
6,171	Adult.	"	" " " " " multiple	"	Died.	Lived a few weeks. Stones were in an ul-
7,078	"	"	Mulberry, diameter 3 cm.	"	Cured.	Discharged in five weeks
9,270	"	3	Diameter 1 cm.	"	"	"
9,271	"	9	Mulberry, diameter 3 cm.	"	"	Discharged in five weeks.
9,337	"	21	Diameter 3 cm.	"	"	Discharged in one week.
9,455	"	66	" " " " " 4x5 $\frac{1}{2}$ cm.	"	Died.	Sclerosis of spinal cord
9,475	"	36	Phosphatic, diameter $1\frac{1}{2} \times 2$ cm.	"	Cured.	Discharged in five weeks.
9,611	"	71	Diameter 2x5 cm.	"	"	The following year took cystitis and died; no
10,341	"	73	Long slender calculi, accreted around the stem of some vegetable.	"	"	recurrence of stone.
10,481	"	22	Mulberry, diameter 4 cm.	"	"	Discharged in three weeks.
10,627	"	2	Diameter $1 \times 2\frac{1}{2}$ cm.	"	"	[globular in shape.
10,752	"	62	Three phosphatic stones	"	"	Disease recurred, forming several new stones,
10,977	"	62	Diameter 3×4 cm.	"	"	"
11,145	"	51	" " " " " 4	"	"	Discharged in twelve days.
11,318	"	33	" " " " " 3x6	"	"	Discharged in three weeks
11,852	"	11	" " " " " 3x4	"	"	Discharged in two and one-half weeks.
11,990	"	14 mos.	" " " " " 2x3	"	"	Discharged in two weeks
12,086	"	69	Weight 19 grams	"	"	Discharged in two weeks.
13,586	"	4	Diameter $1\frac{1}{2}$ cm.	"	"	[and then lithotomized.
13,605	"	10	Mulberry, diameter $3\frac{1}{2}$ cm.	"	"	First broke a strong lithotrite on this stone.
14,437	"	2	Weight 6 grams, diameter 3 cm.	Median	"	Left for home seventh day.
14,714	"	18	Phosphatic, weight 128 grams, diameter $6 \times 8 \times 3\frac{1}{2}$ cm.	Suprapubic	"	Discharged and went home 10th day. Litholapaxy attempted, but lithotrites could not seize so large a diameter.
15,743	"	64	Phosphatic, accreted on a bullet lodged near the prostate gland	Rem'd by incision, not opening blad'r	"	Carried this bullet and calculus over 20 years before removal; ball rec'd in Atlanta camp'n.

LITHOTRITY BY MULTIPLE SITTINGS

5,366	Male	Adult.	Concreted around roll of chewing gum	10 sittings, 10 days.	Cured.	Discharged in four weeks
10,230	"	68	Phosphatic, diameter 1 cm.	5 sittings, 3 weeks	"	Discharged in four weeks. Had been lithotomized twenty years before.
10,227	"	50	Diameter 3 cm.	11 sittings.	"	"
10,027	"	64	" " " " "	10 sittings, 7 weeks	Died	"
10,197	"	Adult	Phosphatic, diameter 2 cm.	3 sittings, 8 days.	Cured	"
10,254	"	"	Diameter $1\frac{1}{2}$ cm.	11 sittings, 23 days	"	"

that they cannot be crushed without breaking the lithotrite. Case 13,605 was of this sort. Seizing it, I was unable to break it with the utmost strength of both hands applied to a strong lithotrite. Calling an assistant to take hold with me we commenced to exert our full force, when a metallic clink from within the bladder told that the instrument was broken. The shank of the female blade was cracked half across, and distorted enough to prevent closing the jaws again. Here was a dilemma. The instrument could not

be drawn out unless closed, and for a time it was probable that it would be necessary to incise freely upward through the perineum, pry the open jaws of the instrument downward through the incision, and file off the shank. However, I succeeded after a time in slipping the blades past the hitch, and closing the jaws. I then withdrew the lithotrite and proceeded at once to remove the stone by lateral lithotomy. The patient recovered, but it was proved that two strong men are too much for one lithotrite. I think it probable,

LITHOLAPAXY, OR EVACUATION OF STONE AT ONE SITTING

No. of Case in Record.	Sex	Age. Years.	Description of Calculus.	Operation	Result	REMARKS.
10,752	Male.	62	Small multiple stone after previous lithotomy.	Litholapaxy.	Cured.	Some very small ones came out uncrushed with the fragments.
10,752	"	63		Pumped out 7 small globular stones without crushing.	"	Recurrence of new stones in same patient Not old fragments.
10,833	"	71	Phosphatic, weight 69 grams.	Operation took 1 hour 32 minutes.	"	Recovered easily.
11,170	"	31	Small.	Extracted without cutting or crush g	"	
*	"	70	Very Small	Litholapaxy.	"	
10,782	"	30	Mulberry, diameter 2 cm	"	"	Rode three miles on sixth day.
10,814	"	70	Diameter 4 cm	"	"	Discharged in six weeks
10,821	"	58	" 4	"	"	Operation. 25 minutes.
10,825	"	66	Mulberry, diameter 3 cm	"	"	Recurred five mos. later.
10,837	"	63	Phosphatic " 2 1/2 "	"	"	Operation. 33 minutes.
10,860	"	28	Hard diameter 2 1/2 cm	"	"	" 29
11,348	"	48	Diameter 1 1/2 cm	"	"	" 25
11,367	Adult.	48	" 5 millimetres.	"	"	Has, in 6 months before operation, passed 6
11,610	"	27	" 1 1/2 cm	"	"	Discharged in ten days.
11,660	"	38	" 2	"	"	Operation. 40 minutes, discharged in 2 wks
11,827	"	66	Phosphatic, diameter 4 1/2 cm	Ord'ry litholapaxy	Died.	Lived 36 days. Cause of death obscure
11,896	"	65	Two stones	"	Cured.	
12,023	"	65	"	"	"	Recurrence after a previous litholapaxy.
12,113	"	66	Small	"	"	Recurrence of Case 10,825.
12,145	"	30	"	"	"	Discharged in eight days.
12,327	"	22	Diameter 4 cm	"	"	Discharged in 8 days, operation, 33 minutes
12,355	"	30	Weight 8 grams.	"	"	Discharged in 30 days.
14,841	"	31	Very hard mulberry cal., diam. 3 1/2 cm	"	"	Required the utmost strength of the hands to break the calculus.
13,457	"	67	Diameter 3 cm., weight 13 grams	"	"	Operation lasted 40 minutes.
13,485	"	48	Mulberry calculus, diam 1 one-fifth cm	"	"	" 20
13,505	"	66	Wt., dry, 4 1/2 grams, diam. 2 1/2 cm., phos	"	"	" 20
13,598	"	61	Phosphatic, soft, diam. 2 cm	"	"	Found and removed a small piece some days after first operation.
13,604	"	50	Rather small	"	"	Six months later albuminuria commenced
13,724	"	65	Phosphatic, soft, diameter 2 cm	"	"	Washed out small piece 13th day; went home
14,406	"	24	Nucleus of chewing gum, wt. 6 grams	"	"	Went home cured 8th day. [15th day
14,448	"	17	Phosphatic, nucleus of gum, wt. 7 1/2 grms	"	"	Discharged cured 7th day.
14,548	"	40	Diameter 1 1/2 cm	"	"	" 6th day.
14,577	"	54	" 2 1/2 "	"	"	" 6th day.
14,691	Adult.	40	Weight 68 grams, diameter 4 1/2 cm	"	"	" 16th day.
14,713	"	60	Weight 2 grams.	"	"	" 6th day.
14,788	"	22	Small and very hard	"	"	Left for home 13th day
	"	71	Several small stones.	Evac'ted with tube without crushing	"	Subsequently got a new stone too large for tube, and died refusing operation
13,746	Fem.	36	Phosphatic, diameter 2 cm	Litholapaxy.	"	Done by my colleague in my absence from hospital.
13,744	Male.	66	Small size.	"	"	Rapid recovery.
13,745	"	63	Small, white, globular	Pumped out by large tube without crushing	"	

* Record lost.

also, that a stone might sometimes be found accreted around some smooth piece of steel or iron previously slipped into the urethra by the patient and lost in the bladder. The calculous mass could easily be crushed loose from the steel, but unless the surgeon could succeed in seizing the latter by the end, he could not withdraw it, and might possibly have to cut for it. Two or three times I have found stones containing rolls of chewing gum for nuclei. The gum is slightly pasty, but it breaks into pieces small enough to come readily out through the tubes. I judge that we ought to have a lithotrite a little thicker and stronger than any now made to apply to unusually hard stones.

4. Deformities of the bladder sometimes render it impossible to seize a stone. The deformity may consist of a sacculus too deep to be explored by the jaws, or a stone may be hid behind a prominence of the prostate, so that a lithotrite cannot reach it. I was once called in council by a skilful surgeon who, in attempting lithotomy, found this difficulty to such an extent that, though he had already cut the patient, he could not seize the stone with his lithotomy forceps, because they happened to be straight. My own forceps, which are curved, seized it without much difficulty.

5. Strictures of the urethra forbid litholapaxy, unless they are first overcome. Case 14,841 had this obstruction. It was first divided by Maisonneuve's stricture cutter, and the litholapaxy successfully performed about a week later.

These various obstacles to litholapaxy are rarely insuperable in adults, so that out of forty-two proposed operations of this sort, only two had to be changed to lithotomy; yet these two are enough to show that a surgeon should always go to a case prepared for either operation.

Case 8,497 (lithotomy) was remarkable for containing nine stones, of which six were of large size and accurately fitted to each other by attrition, as shown in the annexed cut. Their combined weight was 176 grams.

Prof. Bigelow's main improvements are thoroughly established, at least until something better can be devised; yet, excellent as it is, litholapaxy in its present form has certain objectionable features which are common to all efforts to evacuate the crushed fragments by a to and fro current. The bulb of his apparatus is first compressed, driving some water into the bladder, and then allowed to expand and draw it out again. This expansion draws a stream of fragments with

it, some of which reach the bulb; but, as the suction lasts only during the instant of the bulb's expansion, the current ceases and stops a long row of fragments in the tube, only to drive them swiftly back into the bladder at the next compression. By this churning to and fro many sharp-angled pieces are alternately drawn out of the bladder and shot back into it scores of times before they finally escape into the bulb, thus irritating the bladder by the pelting of sharp fragments, and by the constant and prolonged repetition of forced distensions.

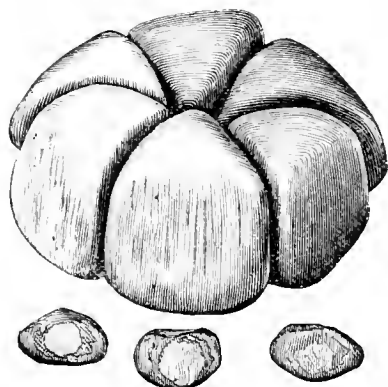


Figure 1.

Evidently we need, not a churning to and fro, but a continuous current, always in one direction, but, as the outflow tube must be large, to allow the pieces to pass it, one would judge at first thought that there would be no room for a sufficient inflow tube by the side of it.

Careful mathematical calculations, verified by experiments, showed me three years ago that, by having a reservoir of warm carbolated water 42 inches above the pubis of the patient, and a peculiarly constructed double tube, the inflow channel can be reduced to a small size, and still supply a current forcible enough to sweep all fragments rapidly out of the bladder. The following cuts illustrate the apparatus:



Figure 2

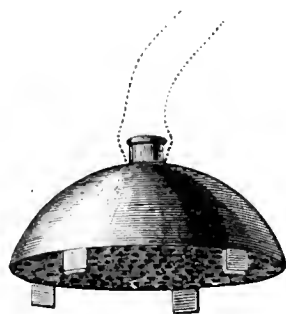


Figure 3.

Fig. 2 represents a bucket or other reservoir filled with warm carbolated water and suspended 42 inches above the patient's pubis, while a syphon of rubber tubing descends from the bucket to the inflow branch of the evacuating tube.

A strainer shaped as in Fig. 3 is attached to the upper end of the tube and dropped into the bucket. The evacuating tube is double, and the inflow part is smaller than the outflow, and lapped halfway around it as shown in enlarged cross sections in Fig. 4, where the cylindrical tube A B is the outflow channel and the lunate space B C is the inflow portion.

Fig. 5 gives a side view of the evacuator. Z is the inflow tube which attaches to the rubber syphon shown in Fig. 2. The inflow tube passes by the curved outflow tube J O without infringing on its calibre, and laps itself around the under half of the outflow tube as shown at B C, Fig. 4. Near the end X, it discharges into the bladder by about thirty small openings. This sends a copious current into the bladder, which rushes into the fenestrum X of the outflow tube X J O., and sweeps out the crushed fragments with great velocity.

It will be observed that the outflow pipe is prolonged a little by a piece of rubber tubing, J O, the use of which requires a word of explanation. Both in Bigelow's instrument and in my own, the fenestrum X is often blocked by several fragments rushing to the orifice at once and locking themselves together in a sort of arch, obstructing the outflow and causing a sudden diminution of the stream of water. When this occurs the surgeon closes the lower end of the short rubber tube J O

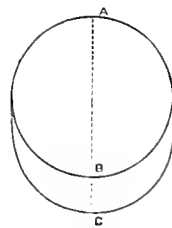


Figure 4.

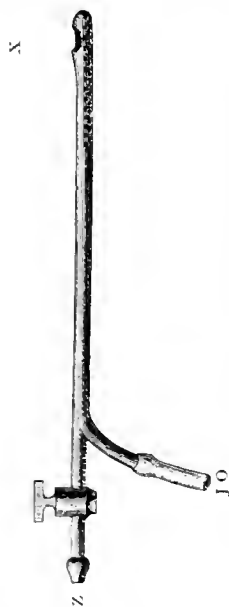


Figure 5.

by seizing it with the thumb and finger of one hand, and then with the corresponding digits of the other hand suddenly compresses the rubber

just above. This sends a quick, forcible jet back into the bladder, driving back the fragments lodged across the fenestrum X, and permitting the outward current to resume its course. I devised this apparatus three years ago, and have reason to be highly pleased with its use.

In respect to the new term, litholapaxy, some object that it designates only an improved form of lithotripsy, and consequently that Bigelow is not really entitled to inflict it upon an art already overburdened with technicalities, and some European authors decline to use it. However, there are good reasons for adopting it. Lithotripsy is a harsh, rough word, and has the inconvenience of sounding so much like lithotomy when carelessly spoken, that surgical teachers and pupils dislike it. Litholapaxy, on the contrary, is smooth and easily distinguished. Moreover, it etymologically means "stone evacuation," and hence is appropriate to include both cases of actual crushing, and also those frequent ones in which the great tubes of Bigelow evacuate stones of some little size without the necessity of crushing. The ability to do this is an important merit. It is probable, therefore, that the word litholapaxy will remain in use, and lithotripsy disappear.

No. 6 Sixteenth St., Chicago.

FOUR CASES OF GUNSHOT WOUND OF THE ABDOMEN TREATED BY LAP-AROTOMY, WITH REMARKS.

Read before the Kentucky State Medical Society, May 9, 1889.

BY DAVID BARROW, M.D.,
OF LEXINGTON, KY.

Case 1.—On July 28th last, about midday, I was requested to see a man at St. Joseph's Hospital, who was reported to be shot in the abdomen. Finding him in the ward, we obtained the following history, principally given by others, though he himself was conscious and would answer questions.

M. K., white, aged 31 years, strong and muscular, had that morning, at Payne's Depot, a station eight miles from Lexington, been shot. He was brought to Lexington on the train, and from the depot to the hospital in a wagon. He had vomited frequently, and had suffered continuous and intense abdominal pain; so great at times that morphine was given hypodermically. Thirst was intense, and considerable water was drunk, with the effect, usually, of causing him to vomit, and so great was the collapse at times that during the rough journey stimulants were given.

He was shot with a 44 Colt's pistol at 10 A.M., and we saw him two and a half hours later. His condition at our visit was one of marked shock. He lay upon a bed breathing rapidly, and wet with perspiration. The movements of the upper

extremities were frequent and restless, and the thighs were flexed slightly upon the abdomen; the pulse was rapid, weak and irregular, expression anxious and skin cold; vomiting frequent, and he complained bitterly of pain in the abdomen. The wound was $1\frac{1}{2}$ inch to the left of and $1\frac{1}{2}$ inch below the umbilicus; the ball had passed through the rectus muscle, and from the wound projected a portion of the omentum, somewhat soiled and injected, but not strangulated; the abdomen was hard and retracted, and dull over most of its anterior region, and from the wound came every few seconds blood and gas, the odor being faecal. By firm pressure a considerable quantity of blood could be forced out of the cavity. His condition, with this evidence and the location of the wound, made it certain that the alimentary canal was wounded, and possibly other important structures; also, an active hæmorrhage was going on. There was only the wound of entrance, and this gave no evidence of the course taken by the ball.

An operation was decided upon, and a physician who had, unfortunately, been a party to the shooting, and who was present, urged that it be done at once; so, the patient's consent being obtained, everything was made ready.

Antisepsis was attempted, using for instruments carbolic acid, and for all other purposes bichloride of mercury. He was put upon the table three and a half hours after being shot, and the anæsthesia begun. There were present Drs. Brock, Coleman, Molloy and Robinson, and they kindly assisted me in the operation. The integument, after being carefully washed with water and soap, was shaved and washed with ether, and wet bichloride towels were applied. The incision was in the median line, between the umbilicus and pubis, and about 4 inches long. Dissecting carefully until the peritoneum was reached, it was incised between forceps, and the cut enlarged with the finger as guide in the peritoneal cavity. Blood welled up, and considerable gas escaped. As hæmorrhage continued free, the intestines, after the incision was enlarged to about 7 inches, were rapidly delivered and surrounded with warm bichloride towels, and the bleeding vessels sought.

Two branches of the superior mesenteric artery were found bleeding—these were controlled by forceps and left to be tied later. The intestines were then carefully examined, and seven large, ragged perforations found. The mesentery was also wounded in five places and badly lacerated. The intestines were empty, and there was no faecal extravasation.

The perforations being very ragged, were trimmed with the scissors and closed with the continuous Czerny-Lembert suture, using fine catgut for the purpose. After suturing the perforations, the mesenteric vessels were ligated and all raw surfaces of the mesentery approximated. The intes-

tines were then, after being cleansed, returned to the cavity.

During the entire suturing warm bichloride towels, 1 to 20,000, protected the intestines, and as little manipulation was done as possible under the circumstances. The cavity was thoroughly irrigated with several pitchersful of bichloride solution, and sponged clean and dry. The incision was closed with silk and no drainage tube put in; antiseptic dressings were applied and the patient put in a warm bed. The duration of the operation was two hours, and most of the time the pulse could not be counted. Stimulating hypodermics were given, and he was kept surrounded with hot bottles and given hot water enemata. He rallied after awhile and spoke with his sister, and the heart's action improved, but soon he became restless, and died three hours after being put to bed. During the anæsthesia both chloroform and ether were given.

Remarks.—In this patient collapse was the most prominent condition, partly due to the rough trip, but mainly to the loss of blood. The transfusion of a saline solution might have improved his condition. In operating the first thing to do was to check hæmorrhage, and with that in view, the intestines were rapidly delivered and the bleeding vessels caught; after which the injuries were repaired, this being a long and tedious process, as the perforations were large and ragged. In suturing, I commenced about $\frac{1}{4}$ inch from the margin of the wound, and after taking the first stitch, tied the thread, leaving the free end about 6 inches long; then continuing with the suture beyond the opposite margin of the wound, and returning with the Lembert suture to the point of starting, and there tying with the free end. In this way each perforation was rapidly and doubly sutured and the thread tied securely. A drainage tube should have been used, but having none at hand, and hurrying to get the patient off the table, I closed the incision, but with the intention of introducing one later, should there be any indication for so doing. The bullet passed from left to right, and downward and backward. The hæmorrhage, I feel sure, was the main cause of this patient dying so soon; the length of the operation with its consequent manipulation and exposure, and the long anæsthesia were, of course, additional factors in hastening death.

Case 2.—D. J., white, æt. 25, strong and muscular, was first seen in a saloon at 10 P.M., November 6, where he had been shot with a .38 calibre pistol about a half-hour before; he was drunk, and had been since early morning, and had eaten nothing. After being shot he was laid upon a box in the back part of the room, where he was when I went in. The wound was one inch below and three posterior to the left ant. sup. spine of the ilium, and just below the liver and under the skin, and three and a half inches

to the right of the median line the bullet could be distinctly felt.

He was shot while leaning upon the counter, and the ball had traversed the abdominal cavity from below, upward, and from the left to the right side. His pulse at this time was less than 100, strong and regular; no vomiting had occurred, nor was there much evidence of shock; he was restless and talkative, and complained of abdominal pain, and begged that I should give him relief. A third of a grain of morphine was injected, and his friends were instructed to carry him home, which was about a mile off, which they did, after placing him on a mattress in a wagon. I returned to the office for assistants and instruments. Drs. Coleman and Molloy accompanied me to his house and there we found him resting quietly and under the influence of the morphine, apparently no worse from the ride in the wagon.

The wound was again examined, and by enlarging it slightly I succeeded in following the track of the ball through the ilium and demonstrating that the abdominal cavity had been entered. After consultation, laparotomy was agreed upon, but owing to the unfavorable surroundings at his home it was thought best to have him taken to the hospital. He was therefore again put into the wagon and taken to the hospital, reaching there about 1 o'clock in the morning.

At this time there was more evidence of shock, the pulse was 120, and much weaker; he had vomited several times, and his expression had become anxious and his movements restless, and he complained more of abdominal pain.

Chloroform was administered, and at 2 o'clock, by gas and lamplight, I began the operation. Hands and instruments were scrubbed in carbolyzed water, and the patient's abdomen thoroughly cleansed and shaved. The incision extended from a little below the ensiform cartilage to near the umbilicus, and on incising the peritoneum considerable gas and blood escaped; the intestines presented at the opening and it required great care to prevent their being forced out upon the abdomen. The cavity contained about a quart of bloody fluid, but no fecal matter was seen. The small intestines were first examined, and nine perforations found; other viscera liable to injury were seen as best I could through the incision, but no wounds were found, save those of the small intestines and several of the mesentery. A branch of the superior mesenteric artery was found bleeding and it was tied with fine silk. Six of the perforations were sutured, as in the previous case, using very fine carbolyzed silk; the other three being close and destroying a large part of the bowel lumen were resected, about $\frac{1}{4}$ inches of the gut being cut out, and with it a triangular piece of the mesentery. The resected ends were united with the Czerny-Lembert suture and the cut surfaces of the mesentery were carefully ad-

justed and sewed; two small vessels were divided and tied with fine silk. The intestines were protected during the operation with warm wet towels, and were manipulated as little as possible. The peritoneal cavity was then sponged out, and after considerable manipulation and many futile attempts at replacement the incision was enlarged to 7 inches, and then only after puncturing the canal and evacuating the gas, did I succeed in returning the intestines to the cavity, at least a half hour being spent in this effort.

In closing the incision several relaxing sutures were used before the edges could be coapted, and during the entire time great difficulty was experienced in retaining the intestines in the abdominal cavity. The wound through the ilium was left open. The bullet was removed through an incision over it. The operation lasted two hours, and towards the end the patient became collapsed, and stimulating hypodermics were freely given. Antiseptic dressings were applied and he rallied fairly well after being put to bed and surrounded with hot bottles. About an hour afterwards he became delirious and force was necessary in preventing his getting up; so violent was he that morphine was injected.

At my first visit, five hours after the operation, he was resting quietly, with favorable symptoms, later during the day he became restless, vomited a little, and complained of some abdominal pain. He died fifteen hours after the operation.

Remarks.—In this case there was much of interest: first, there was but little shock; second, the incision was above the umbilicus and bisected the track of the ball; third, there was extreme rigidity and retraction of the abdominal walls; fourth, resection of the gut was done; fifth, the intestines were with great difficulty returned to the abdominal cavity; sixth, the peritoneal toilette was imperfect; seventh, the incision was sutured with difficulty; eighth, there was violent delirium after being put to bed.

The absence of shock was prominent, and adds to the evidence that lack of this symptom should not have too much weight in estimating the injury done by a ball. The incision above the umbilicus, I believe, was unfortunate, for being near the muscular attachment the rigidity of the walls was great and the unyielding opening made it almost impossible to examine for or to repair the injuries. The incision had to be enlarged to 7 inches before the intestines could be returned, and even then they had to be punctured. Time could have been saved and manipulation lessened had the incision been, in the first place, below the umbilicus, and then, if necessary, extended up. Three of the perforations were so close that resection was deemed advisable; in a similar case I should suture the wounds, and if the calibre was too much diminished, should make an anastomosis above and below the constriction, using plates, as recommended by Dr. Senn.

The great difficulty experienced in keeping the intestines confined made it impossible to clean the peritoneal cavity. The delirium was due largely to whiskey; death to the extensive wounds, to the duration of the operation, and its necessary attendants, and probably occurred before there was septic peritonitis.

Case 3.—D. J., mulatto, æt. 29, was shot in the country on December 25th, at 10 o'clock in the morning. He was drunk at the time, and after receiving the wound walked several hundred yards. He came to Lexington in a wagon, and Dr. Willis was called to see him. I saw him at 2 P.M., and he was still quite drunk. There was no shock, and he complained little of pain. Two and a quarter inches to the left of, and a half-inch below the umbilicus was a bullet wound, and through it a probe passed into the abdominal cavity. An exploratory incision was decided upon, and everything gotten ready as quickly as possible. Assisted by Drs. Willis, Molloy, and Brock, I began to operate at 4 o'clock, six hours after he received the wound. Chloroform was administered, and an incision was made in the median line, between the umbilicus and pubis, about 4 inches long. A loop of the small intestines was brought into the opening, and starting from this point I traced the tube above to the duodenum and below to the cæcum, but found no injury. There being a little blood in the peritoneal cavity, it was sponged out and the incision sutured with silk. Boiled water filtered through flannel was the only kind used. The operation lasted about an hour, and the patient rallied promptly. Antiseptic dressings were applied and he was put to bed. During the night he became quite restless, vomited several times, and the temperature went up to 100. A $\frac{1}{2}$ grain of morphine was given by mouth, and he became quiet.

December 26th, 11 A.M.—Patient doing well; no pain; normal pulse and temperature. From this time everything was favorable; the stitches were removed on the ninth day; twenty days after the operation he returned to the country, against my advice, but when last heard from was well and doing hard work. After the first twenty-four hours small quantities of milk were given, and at the end of two days the food was gradually increased to its normal quantity. Castor oil was given on the fourth day and the bowels moved several times.

Remarks.—The location of the wound and the fact that the abdominal cavity had been entered, were my only reasons for opening the abdomen; then, an exploration, cleanly and carefully done, did not, in my opinion, add much gravity to the case. Senn's hydrogen-gas test for perforation might have been preferable to exploration, but I was not prepared to make it.

Case 4.—J. J., Negro, æt. 25, shot at 10 P.M. April 22; seen by me at 2 A.M. the 23d. Was

then resting quietly and with but little shock; no vomiting had occurred, and there was nothing to indicate serious injury. One and a half inches below the ensiform cartilage, and one and a half to the right of the median line, there was a bullet wound, which passed direct into the abdominal cavity. I left, with the instruction to have things ready for an operation at nine o'clock.

At 11 A.M., thirteen hours after the wound was received, I made an exploratory incision four inches long in the median line, from the ensiform cartilage down. On opening the cavity considerable blood and bile escaped; and introducing my finger I felt a wound in the liver. The ball had passed through the right lobe, a little to the right of the suspensatory ligament, and had cut one of the bile ducts; the gall-bladder was intact, but empty. Hæmorrhage continuing, I decided to plug the wound with bichloride gauze, but to do this I was forced to make a cross incision of two inches, which divided the right rectus muscle below the cartilage. I succeeded in stuffing gauze in the anterior part of the wound and in controlling the hæmorrhage; the end of the gauze was brought out at the upper part of the incision. The posterior part of the wound was hard to get at, and as but little blood came from it, I left it without interference.

The peritoneal cavity was irrigated with two gallons of warm water and sponged out fairly clean. The incision was closed with silk and a rubber drainage-tube put in; iodoform was sprinkled over the wound and bichloride dressings were applied. Chloroform was the anæsthetic; operation lasted one hour, and the patient rallied well. He did well for two days after the operation; jaundice was then marked, and he became restless and delirious. He continued in this condition until the 28th, nearly five days after the operation, when he died. Bowels were moved frequently with glycerine enemata; urine contained a great deal of bile.

Remarks.—Considering the quantity of bile in the peritoneal cavity, the shock was very slight. All agree that bile extravasation renders a case almost hopeless; several notable exceptions are, however, referred to in "Greig Smith's Abdominal Surgery." In one, forty-seven pints of what seemed to be bile were drawn from the peritoneal cavity by Thiersch. The hæmorrhage from the liver was successfully controlled by stuffing the wound with bichloride gauze. There was never the slightest abdominal tenderness or distension, and the temperature never exceeded 99. The patient suffered more with pain in the right shoulder than he did from the wound.

In my opinion this patient would have recovered had not the bile duct been cut, and I feel sure that his death was due to chokemia.

GENERAL REMARKS.

Dr. Coley, in the *Boston Medical and Surgical*

Journal, gives to Baudens, of France, the credit of having done the first laparotomy for penetrating shot wounds of the abdomen, in 1836. He says: "Baudens boldly opened the abdominal cavity, resected eight inches of the small intestines, and united the edges with the Lembert suture. Although the patient died on the third day, the autopsy revealed a wound of the cæcum which had not been discovered at the time of the operation, and fecal extravasation in the abdominal cavity. His second case proved to be a wound of the transverse colon. The abdominal wound was enlarged, intestine sutured, and the patient recovered."

Dr. Kinlock, of Charleston, S. C., did this operation in 1881; and Kocher, of Berne, Switzerland, had a successful case in 1883. In this country Dr. Bull, of New York, met with the first success in 1884. Since then many operators have entered the field, and in Dr. Coley's article he gives tables containing 74 cases, with 39.5 per cent. recoveries. Under the "let alone" management of such cases, the recoveries were less than 10 per cent. He also points out the importance of operating early; in those cases operated upon within twelve hours after the wound had been received, the per cent. of recoveries was much greater than in those operated upon later.

With such a difference in the mortality, there can no longer be doubt as to the propriety of opening the abdomen when penetration has occurred, and surgeons are almost unanimous in advising laparotomy when there is strong evidence of the viscera being wounded. I might go farther and say, the fact that a ball had penetrated the abdominal cavity in a location where visceral injury is probable, should justify the surgeon in making an exploratory incision, even when the symptoms indicate no serious damage. Dr. Jos. M. Fox reports a successful case where two perforations were found in the small and two in the large bowel, and the only indication for operation was "the fact that the ball was found to have entered the abdominal cavity."

There was but little shock in my second case when I was first called to him, and in the third none at all. In the second I found great traumatism; in the third, no injury had been done the viscera, but my exploration did no harm, and the patient made a rapid recovery. Others have opened the abdomen and have found no viscera wounded, but all of the cases, I believe, have recovered after the exploratory operation. In one case mentioned by Dr. Mears, in his article in the *Annual of the Universal Medical Sciences*, the counsel, to defend his client, plead on the ground that the attending physician had failed in his duty, by not opening the abdomen and repairing the wounded viscera.

We now have a reliable test for perforation of the alimentary canal by the use of hydrogen gas,

as recommended by Senn. Several cases have been reported where perforation has been demonstrated, and Dr. Senn reports a very interesting one in which, after closing eleven perforations, he was enabled to find the twelfth in the upper part of the rectum, by the gas continuing to escape when forced into the bowel. This patient recovered.

When first called to a case of gun-shot wound of the abdomen, the thing to ascertain is: whether the peritoneal cavity has been entered; and, to do this, it may be necessary to enlarge the bullet wound and follow it through the walls. I have met two cases recently, of abdominal wounds, where the cavity had not been entered, although the wound in each case was near the umbilicus, and in one there was considerable shock. In following the track of the bullet, important evidence may be gained by noting the direction taken, and this will aid us in estimating the damage done in the cavity if it has been entered. In doing laparotomy for penetrating wounds of the abdomen, we should be fully equipped, that every advantage for recovery may be given that the surgeon can possibly offer. Cleanliness here, as in all abdominal operations, is essential, and any neglect in cleansing ourselves, instruments or patients, is scarcely short of criminal.

Water, boiled and strained, will answer for the peritoneal cavity, and I prefer not to add an antiseptic; a 5 per cent. solution of carbolic acid is best to cleanse the hands and instruments. Operators are almost unanimous in advising the median incision in this operation, and there can be no doubt but in the large number of cases this incision will best serve the surgeon. Dr. McGraw, of Detroit, in an interesting article published in the *Medical Record*, on "Some Points on Laparotomy for Visceral Injuries," disapproves of the incision being so invariably made in the median line. He discusses this fully, and cites a case where the ascending colon was perforated, and he succeeded in easily suturing the perforation by enlarging the bullet wound over the colon; had he made the median incision this would have been impossible, without making the incision very long. Unless there is strong evidence, however that the ball has injured structures only far to one side, or that one of the immovable organs has been wounded in a part far from the median line, I should employ the short median incision; even a long median, if the viscera could be repaired through it, I should prefer to one considerably shorter to one side. An incision through muscles causes them to contract, the abdominal walls to become rigid, and manipulation difficult; and besides, through a small incision to one side it is almost impossible to make a clean peritoneal toilette.

In my second case the operation was prolonged and great difficulty encountered in returning the

intestines to the cavity, owing to the rigidity and retraction of the abdominal walls. I attribute this condition to having made the incision high up, consequently near the muscular attachments; and to the fact that the ball had plowed through the abdominal muscles to the right of the median line, and had caused them to contract tonically. If possible we should, as soon as the peritoneal cavity is entered, find the course taken by the ball, and by carefully examining the wound—I refer, of course, to those cases where there is but one—and noting it carefully, first at the point it enters the wall and then at the point it leaves it to enter the cavity, we will usually be enabled to form a good idea of the course that has been taken. Muscular contraction and change in the patient's position may cause a change in the relative position of the two openings; but frequently the information gained will be satisfactory. If the direction is ascertained, then only those viscera possible to be injured should be examined, and no others manipulated.

Should we be in doubt as to the course of the ball, it may be necessary to examine most of the viscera, and to do this a long incision will be necessary. To deliver the intestines, and keep them out any length of time, even when surrounded by warm towels, will cause marked shock, and if possible, only the loop being sutured should be out of the cavity, and it should be returned before another is delivered. Care in preventing intestinal exposure, and in manipulating but little, is very important. Dr. Senn observed that dogs would frequently die from shock after the intestines were exposed for a half hour, and I see no reason why it should be different with man. In most cases the jejunum and ilium must be examined, and it is best to catch up a presenting loop, and to trace the tube first in one direction and then in the other, using care to return the examined loop as the next is brought in view. An assistant can usually with sponges keep the opening closed and the intestines in the cavity, except the part being operated upon. In case of hæmorrhage the intestines must be delivered rapidly and the bleeding vessels controlled, as in my first case, and sometimes, owing to the rigidity of the walls, the intestines will be forced out of the cavity, as happened in my second case.

All other viscera in the bullet's course should next be examined, by sight if possible, if not by sight, by touch; and if injury be found, it may be necessary to enlarge the incision before suturing can be done. The Czerny-Lembert suture will close securely all perforations of the hollow viscera, and I prefer the continuous suture, as it can be applied more rapidly. Dr. Senn recommends that "omental flaps" be applied over the sutures after circular enterorrhaphy, among other reasons, it being an additional safeguard against extravasation. All wounds of the mesentery

should be carefully coapted and sutured. In those cases where the mesentery is extensively lacerated at its junction with the intestines, and the blood supply cut off, resection should be done. In resecting, we can use the Czerny-Lembert suture, or better than that, Jobert's invagination suture as modified by Dr. Senn. In wounds of the solid viscera, when the hæmorrhage can be stayed, the prognosis is more favorable. In liver wounds, uncomplicated by other visceral injuries, the majority of cases have recovered. To stop hæmorrhage, deep sutures should be used if possible; if this cannot be done, then the cautery should be applied or the perforation stuffed with iodoform gauze, as has been successfully done in a liver wound. If hæmorrhage continues from a wound of either the spleen or kidney, it may be necessary to remove the organ. Dr. Parkes lost a case from hæmorrhage from the kidney, his patient living twenty-four hours; and Dr. Keen removed a kidney successfully, his patient living fifteen days, death being then caused by gangrene of a contused wound of the mesentery setting up septic peritonitis. Should the gall-bladder be wounded and the bile extravasated, the prognosis is most grave, death being almost inevitable. Greig Smith, in his "Abdominal Surgery," mentions a case recorded by Paroisse, where a ball remained in the gall-bladder for two years before death. We may, in perforations of this viscus, either suture the perforation or do a cholecystectomy.

Wounds of the urinary bladder should be sutured, and if the peritoneal cavity is not infected by urine, the patient may recover.

Besides the cases above mentioned, I know of but one other laparotomy for gunshot wound of the abdomen in Kentucky, and that was a case reported by Dr. Isaac Warren, of Somerset. He operated twenty-four hours after the patient was shot. The small intestines were perforated five times; the patient died of peritonitis fourteen hours after the operation.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

January 12, 1889.

AMPUTATION OF THE FORE-ARM.

We have a patient here this morning who has

had his hand traversed by a car-wheel. This happened about two hours ago, and illustrates, very forcibly, the condition in which you will find a limb after an accident of this kind. You will frequently hear people say when they see a contused limb that, "it was merely grazed by the flange." Now this is an impossibility. I think that all of you know that the flange of a wheel is on the inner surface of the wheel, and travels along the inner edge of the rail, so that in order to be "grazed by the flange" the limb must be traversed by the tread of the wheel, or his body must be entirely under the car. A limb may also be caught and pushed along in front of the wheel, for a short distance, and then thrown from the rail. This may cause a very extensive contusion, so that you may even be at a loss to know, whether, or not, the wheel passed over the limb. This you may always ascertain by examining the bone, which you will find crushed, and finally comminuted where traversed, by the wheel, but where the limb has been merely shoved in front of the wheel, and thrown from the rail, you may find the bone fractured, in several places perhaps, but you will not find it crushed into fine fragments.

Before the days of antiseptics, we used strips of adhesive plasters in dressing these wounds, we formed our flaps, placed a few sutures, then covered the stump with adhesive strips. We do not use the plasters now, but we sew up our wound a little more carefully. One reason why we no longer use plasters is because they make a filthy dressing, and another is, because of the septic material in the plaster. In those days we shaved the limb, carefully to facilitate the removal of the plasters, we still continue to shave the limb, not so carefully, however, and principally for the sake of cleanliness.

In amputations of the forearm, I prefer the modified flap operation. You grasp the limb between the thumb and forefinger, of your left hand, at the point where you intend to saw the bone off. You then make your flaps by making incisions between the points where your thumb and forefinger rest, on the limb. You then dissect up the skin, turning it up as you would the sleeve of your coat. I also like to include part of the muscle, because if you dissect the skin up by itself, you sever all of the little vessels that go to its nourishment. I prefer the modified circular operation, because you cut the arteries at a right angle, and you make a less wound in the skin. After you have turned the skin up sufficiently, you make a circular incision of the muscles, cutting everything down to the bone, then pass the knife between the bones, cutting the interosseous membrane. You then saw off the bones, and there is a right and a wrong way to do this. I begin by placing the heel of the saw on the radius, then draw it back, making a track for your saw.

After your saw is well started in the radius, depress the handle and make a start in the ulna, then return and sever the radius, and last of all the ulna. Do not saw rapidly as the ends of the bones may be burned by the friction of the saw. Bite off all sharp angles or points of bone, with the bone forceps. In controlling hæmorrhage, I twist large arteries, and for capillary oozing, hot water is generally sufficient. A drainage tube is then inserted, and the wound is closed. In wounds like this, I like the seamstress' stitch; do not make the mistake of using the glover's stitch, or the stitch used in sewing covers on balls, for seamstress' stitch; if you do, you will not bring your edges into close apposition. Do not sew up a wound too tightly. Always make allowance for more or less effusion and wound tension.

OPERATION FOR FISTULA IN ANO.

We have another case to show you, that of a man with a fistula in ano. These, as you know, are caused by traumatisms, foreign substances in the rectum, and various other ways. An abscess first forms in the vicinity of the anus, pus accumulates and travels in the direction of the least resistance, which is usually in the direction of the rectum, although they also frequently open externally. After they have once opened into the rectum, the irritation from fæces entering the canal, together with the movements of the bowel, and the contractions and relaxations of the sphincter ani, interfere continually with repair, and they do not heal until the sphincter ani is divided.

You notice about this anus a peculiar growth, resembling somewhat a rose in appearance, then a condylomata, or mass of syphylitic warts. These must be handled with great care, as they possess the power of inoculating syphilis through a wound in the skin, or through an abrasion on the hands of the operator. You also see an opening in the skin on the left of the median line, and two inches from the anus. This is the external opening of the fistula, a grooved director passes in at this opening, and readily passes through and out at the anus. The director now lies in the track of the fistula, and with a scalpel I will incise all of the tissue that is lying over the director. This constitutes the operation for fistula in ano.

I find another small opening in the skin, on the right hand side of the median line, and about two inches from the anus. In this case I am unable to find an internal opening, but as the part is all undermined here with pus, I will make an internal opening, by forcing the director through into the rectum. This side will be incised as was the other. The after-treatment of these wounds, will be of more importance, than the operation. They must be kept thoroughly cleansed by frequent washings with antiseptic fluids, and they must be kept packed with iodoform gauze,

in order that repair may take place from the bottom. These condylomata will be removed by the scissors, and their seat cauterized, and when they begin to granulate they will be occasionally touched with nitric acid, nitrate of silver, or other caustics. This man will be put upon proto-iodide of mercury, which will be pushed until his gums are slightly touched, and if he does not improve on this he will be given mixed treatment. A favorite plan of mine is to take a piece of blue ointment the size of a chestnut, and rub it into his back, and repeat this each evening. This, together with the exhibition of iodide of potassium internally, I consider an excellent mode of treatment.

January 19, 1889.

OPERATION FOR HARELIP.

I have to-day a case of harelip to show you. The patient is a boy about 6 years old, and is brought here for operation by his father. Besides the harelip, he has a cleft of the palate. Instead of the double fissure in the lip as is often the case, he has but a single fissure, and where this is the case, it is almost always on the left side. You have seen Professor King operate on several cases of harelip during this term, but my manner of operating is somewhat different from that of Professor King. As a preliminary step I pass a loop of string, or ligature, through the lower angles of the lip, on either side of the cleft, not for any part it takes in the operation, but for the purpose of holding the parts out of the way. This is better accomplished in this way, than it could possibly be by the aid of forceps. I then dissect the lip loose from the superior maxillary bone, on either side of the fissure, so that they may be drawn together with greater facility, in closing the fissure. The next step in the operation, is to pare or denude the edges, that are to be brought into apposition. This is done by transfixing the lip just at its vermilion border, or just where the skin and mucous membrane meet. This should be done with a narrow, straight bistoury. The incision should then be carried well up to the nostril or to the extreme limit of the fissure, then cut off. The other side of the fissure, is then to be treated in like manner, and the two thin strips that have been pared off brought down so that they hang in front of the mouth. This constitutes the third step in the operation, and the loops through the angles of the lip, having subserved their purpose, are now removed. The lips having been previously dissected loose from the superior maxillary bone, are readily brought together, closing the wound. Here also surgeons differ, in the manner of retaining the parts, some prefer the wire suture, passed through the lips, while others prefer the silk or horse-hair ligature. For my part I prefer the harelip pins and a cotton cord ligature. I

prefer the cotton ligature, because it is a little more elastic, and a little softer, and not so likely to cut into the tissues. The first pin is passed just at the vermillion border of the lip, it should go deeply into the tissues of the lip, but should not include the mucous membrane of the mouth. It should pass across the wound, and emerge from the skin, at a point corresponding exactly with the point of entrance on the opposite side. The other pin is passed in like manner, near the upper border of the wound. It is not necessary to wait, for the hæmorrhage to cease entirely. Bringing the parts together with the pins, is usually sufficient to stop the hæmorrhage, if any remain.

You now notice a projection downward in the line of the wound. This is caused by union of the two strips pared from the sides of the fissure, and they will be made to fulfil a good purpose here, because in a great many of these operations a notch is left after the wound heals. In this case, part of this projection will be left here, so that after repair has taken place, enough of it will remain, to prevent a notch being formed. Now in addition to the two pins, I will put a wire suture through the wound, for additional support, and two or three sutures of fine silk, through the mucous membrane of the projecting part, to hold it in apposition. The pins should not be allowed to remain too long, or they will leave marks, after the wound has healed; on the other hand, if they are removed too soon the wound may come apart, so it is a very nice point to know just when to remove them. Mr. Holmes asserts that he removes the pins in twenty-four hours, while others allow them to remain for several days. There is no rule in regard to this, but they should be removed as soon as they can be dispensed with. I cut off the heads, and points, of the pins, and to prevent the projecting parts from sinking into the skin, I put small bits of plaster under them. For additional support, I draw narrow strips of adhesive plaster over the wound, from side to side.

THE OPERATION OF CIRCUMCISION.

I have another case to show you to-day, that of circumcision. It is said that this operation was first done by Moses, but I believe that it was done in Arabia, long before the time of Moses. At all events you know that there are fashions in surgical operations, as well as in the cut of your wearing apparel. This operation seems to have again come in fashion, within late years. A long prepuce of course is an annoyance, to a man all through life. Besides that from phimosis, and paraphimosis, it is exceedingly filthy, and frequently leads to disease. There is, however, some points in favor of the long prepuce. It was put there for some good. Without it the meatus may become contracted from friction with the

clothing. In covering the glans it serves to keep that part more tender, and sensitive, thus rendering copulation more desirable, and conception more certain. Therefore I think that the operation should not be advised unless there be some good reason for it, other than that of being in the fashion.

This boy, about 15 years old, has been in the medical side of the hospital for some time. A few weeks ago, it was noticed that he became nervous, restless and sleepless. Later he became delirious, which continued until he had to be confined to the cell. An examination showed that he had a very long prepuce, and phimosis. I do not know that this is the cause of his nervous trouble, but our reason for doing the operation is based on sufficient absolute authority, to justify us in doing it. Do not think, however, that every boy with a long prepuce has phimosis, or even an abnormality. This is the normal condition in young boys. In doing this operation, it is well to make a mark with ink at the point where you intend to divide the foreskin. The part is then placed between the blades of Ricord's forceps, and all in front of the forceps is cut off. The skin is then reflected behind the glands, but the mucous membrane will remain. This is then cut or torn, and reflected back with the skin. The skin and mucous membrane is then sutured together, and this is usually done with the horse-hair suture. In the Jewish rite, the Rabbi does not sew the skin and mucous membrane together, and I would not advise you to do it, in very young children. This constitutes the operation. This boy will be given medical treatment, and it remains to be seen what effect it will have on his reason which, as I told you, is entirely lost.

MEDICAL PROGRESS.

ON THE PROGNOSIS OF HEART DISEASE.—LEYDEN reverts once more to the question how long the period of complete compensation of a cardiac lesion can last. Supposing, for instance, that in a patient with cardiac lesion the compensation is altered. This alteration admits of three phases:

1. It is slight and manifests itself only by inability to work.
2. The trouble of compensation is complicated by dropsy.
3. Dropsy is accompanied by visceral congestions, asystole, etc.

This latter phase is beyond the physician's skill; only the first and second are susceptible to therapeutic measures.

The first question to be asked is regarding the cause of the break in the compensation; whether it is the result of a progress of the cardiac lesion

or of an accidental cause: fatigue, excess, over-feeding, additional disease, gravidity, etc. A conclusion of the utmost importance for prognosis may be drawn from the effect of the cardiac medicines, from which we may easily judge of the condition of the cardiac muscle. Oertel notes in his cardiac patients the daily quantity of liquids introduced and excreted, as in these cases the prognosis depends largely upon the difference between the introduction and excretion of liquids; the greater this difference the less favorable is the prognosis. The same inference may be drawn from the action of digitalis: the prognosis varies according to whether this substance acts rapidly or slowly, or not at all.

As regards physical symptoms of heart disease I have already stated that changes in the volume of the heart must especially be noted. While the heart tones have no especial prognostic value it may be said, in a general way, that the systolic murmur is less grave than the diastolic. It is certain that in many cases systolic murmurs may exist without a trace of cardiac lesion. To be sure, it is necessary to distinguish here between the systolic murmurs of the orifice of the aorta and those of the apex of the heart, as in individuals of a certain age the systolic murmurs of the aorta lead always to a suspicion of an alteration of the aorta. The prognosis of the systolic murmurs of the apex is, therefore, better. On the other hand, the diastolic murmurs indicate, except in very rare cases, the existence of an organic lesion. To be sure, there are accidental diastolic murmurs, but they are so rare as to be safely ignored for our present purpose.

Let us examine now the anomalies in the rhythm of the heart without organic lesion. The intermittence of the pulse with increase in strength at the moment of resumption induces individuals thus affected to believe that they have heart disease. I do not attribute the least significance to this symptom, which is due, I believe, to a psychical cause or to reflexes originating with the organs of the abdomen. Equally frequent is the arrhythmic pulse. There are persons who have had an arrhythmic pulse all their lives without being troubled thereby in the least (provided there is no manifest organic lesion of the heart). I consider the prognosis in such a case favorable, but the complete disappearance of this arrhythmia is very rare.

Delirium of the heart (or, as ancient authors call it, *tremor cordis*, because the rhythm could not be perceived), is a more serious affection. It cannot last very long without affecting the heart seriously.

Tachycardia, that is, a perceptible increase in the frequency of the pulse, depends physiologically upon a paresis or a paralysis of the vagus nerve. It is admitted that prolonged increase above 120 pulsations is dangerous, but 130 to 140

pulsations have been observed without death following. I observed once a pulse of 140 for four weeks, at the end of which period the patient died. In individuals affected with Basedow's disease the frequency of the pulse is always very great; above 160 it becomes dangerous to life. Once I saw a pulse of 200 in a patient affected with Basedow's disease, who died a few days afterward. In tachycardia febrilis the prognosis becomes serious as soon as there are more than 120 pulsations a minute. This kind of tachycardia may vary a great deal with different individuals and according to the disease. It is hardly necessary to mention the great frequency of pulse during the first period of acute exanthemata without the prognosis being unfavorable on account of it. There exists also a paroxysmal tachycardia in this sense, that the rapid pulse appears only at intervals; it is frequent in neuroses of the heart, and not dangerous because transitory. Tachycardia in convalescents appears in consequence of the slightest psychical or physical effort.

Bradycardia is seen in patients with icterus, and is generally rather a serious symptom. The bradycardia following the administering of digitalis, as also that which complicates angina pectoris, are well known. Physiologically, I mention here that ligature of the coronal arteries produces likewise a bradycardia. When patients are required to take digitalis for a long time the frequency of the pulse diminishes. Permanent bradycardia: that is, the rapid slackening of the pulse which falls to 30 or even 20 pulsations, was first described by Stokes; it is complicated with syncope, convulsions which seem to result from anæmia of the brain.—*La Semaine Médicale*, May 15, 1889.

L'HYDROXYLAMIN IN DERMATOLOGY.—P. J. EICHHOFF, in *Les Nouveaux Remèdes*, recommends this substance for the treatment of skin diseases. It appears in the form of colorless hygroscopic crystals, easily soluble in water, alcohol and glycerine. It is an active reducing agent, forming in the blood methæmoglobin. It produces hæmaturia by destroying the blood corpuscles when introduced into the blood in doses exceeding 1 centig. for each kilogr. of animal. Besides it acts as a narcotic on the nerve centres. Because of its pronounced reducing qualities this substance recommends itself as an excellent topical application in parasitical skin diseases. Eichhoff especially likes the chlorhydrate in the following formula:

Chlorhydrate of hydroxylamin . . . 0.1 gr.
Alcohol or glycerine 50.0 gr.

For external use.

After washing the affected portions of the skin with soap they are painted from three to five times daily with the alcoholic solution of hydroxylamin. This alcoholic solution being very irritating and poisonous, at the beginning no

stronger solution than 1:1,000 should be used, and not until later, when no harmful secondary symptoms have developed, may a stronger solution be resorted to. Eichhoff treated in this way five cases of lupus vulgare, five cases of herpes tonsurans, and one case of parasitical sycosis of the face. The results were especially encouraging in lupus; even after eight days of treatment a reduction of the hypertrophied portions was noticed, and a cure with smooth scar was effected inside of four weeks. In herpes tonsurans the hydroxylamin at first greatly irritates the skin, but the final result is none the less satisfactory. The author intends to use the substance also in other diseases, such as psoriasis.—*Journal de Médecine de Paris*, May 12, 1889.

PUERPERAL FEVER.—DR. A. HACHSTEIN, in *American Lanct*, says: The whole substance of the prevention of puerperal septicæmia is: Do not allow any poison to be near a puerpera, or if there is any do not permit it to enter her genital tract. But if regardless of all our precautions the poison has entered the genital tract, destroy it before it gets into the system.

This latter is the whole essence of therapy in this disease. Thus the most efficacious treatment will be a local one. Disinfecting vaginal injections will remove the poison from the wounded structures in the genital canal, and at the same time ward off the immigration of new poisonous matter. If pieces of membrane or of the placenta are left in the uterine cavity to decay, intra-uterine irrigation used two or three times will do the best service; if not sufficient, curetting should be resorted to. If the poison has entered the system, and we have to deal with general peritonitis, laparotomy should be taken into consideration.

In general treatment we all have been accustomed to rely greatly on opium. As for my part, if I had to treat a case of puerperal septicæmia now, I would not seal up the primæ viæ and so allow the ptomaines to remain in the system, by giving the opiates; but I use the salines from the beginning.—*Archives of Gynecology*, May, 1889.

THE DISAPPEARANCE OF CARDIAC MURMURS.—DR. M. A. BOYD, of Dublin, at a recent meeting of the Royal Academy of Medicine in Ireland, read a paper on the disappearance of cardiac murmurs which have existed sufficiently long and have led to such changes in the cardiac walls as to be considered organic in character. Such disappearing murmurs are generally consecutive to acute rheumatic endocarditis; cases also occur of chronic endocardial changes which ultimately leave the heart free from all traces of disease. Dr. Boyd gave three instances of cases under his own observation—one of the murmur of mitral regurgitation, with consecutive changes in the

left ventricle and auricle, which existed for two years, and ultimately disappeared, as did the hypertrophy associated with it; and two others of aortic regurgitation existing for a considerable period, which finally got quite well also. In both these latter cases the existence of hypertrophy and dilatation of the ventricle might be taken as sufficient evidence that they were of a permanent nature, as also the length of time they continued after the primary endocarditis. A well-established constrictive murmur, in his opinion, never gets well: it may disappear or cease to be heard, owing to failure or weakness of the cardiac walls, or to excessive dilatation either of these or the aorta, but the symptoms associated with it remain, and *post-mortem* evidence shows no cure. Plastic material deposited on or in valves may ultimately get absorbed when it only interferes with their adaptation, but when deposited around the margin of an orifice it must ultimately, by its contraction, cause obstruction. Such absorption is most likely to take place in young subjects, owing to the rapid metabolic changes which occur in their tissues and to compensation being more easily established; and is more frequent where the valvulitis is rheumatic than where it is the result of alcoholism, gout, or contracted kidney.—*The Medical Press*, March 13, 1889.

PRECOCIOUS MENSTRUATION: AMENORRHEA WITH CONVULSIONS.—A case of remarkable precocious menstruation is reported by DR. DIAMANT, of Vienna. When a 12-month old, the child had cut all her milk teeth. When barely 2 years of age, the first period was observed. It lasted four days, and recurred with regularity till the child was 6 years old. At that age her breasts, loins, and pelvis were of the adult type; the axillæ and pubes were thickly covered with hair. Suddenly the period ceased, and for six months after the child had completed her sixth year epileptiform convulsions came on during sleep, at every date when the catamenia should have appeared. The fits some times lasted three-quarters of an hour, and increased in number every month. They were continuing when the case was reported, the child being then 6½ years old.—*British Medical Journal*, May 4, 1889.

PHENACETIN IN LOCOMOTOR ATAXIA.—HOTTENSTEIN, records the case of a man, æt. 64, who had a syphilitic history with typical progressive locomotor ataxia, accompanied by exceedingly severe lancinating pains in the legs, arms, and face, as well as the abdomen. In some attacks the bladder and genito-urinary tract were especially involved in the nerve-storm, and violent tenesmus was often present. Phenacetin, in the dose of 28 to 32 grains at the beginning of an attack, always brought relief in less than one hour.—*University Medical Magazine*, Jan., 1889.

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SATURDAY, JUNE 15, 1889.

RAILROAD RATES.

We regret to say that the Committee of Arrangements has been unable to secure special rates for those who wish to attend the meeting at Newport. Every reasonable effort has been made to secure reduced rates, and we feel confident that the action of the railroads has not been in accord with their own financial interests. On all these roads excursion rates are given, and doubtless in many cases these may be made available.

MASSAGE IN GYNECOLOGICAL PRACTICE.

A great deal of interest is being manifested of late in the treatment of uterine displacements and inflammatory exudates surrounding the female pelvic organs, by means of what may be called (for want of a better term) pelvic massage.

The principles involved in this method of treatment and their actual application in gynecological practice, while scarcely to be regarded as new have nevertheless only just begun to attract anything like general interest on the part of the profession. For some years past articles descriptive of the application of the methods, with accounts more or less credible of the cures achieved, have appeared in the literature of gynecology and in the near future the subject will doubtless have a literature of its own.

One of the earlier papers on this subject and one that has attracted considerable attention both at home and abroad, is that by Prof. A. Reeves

Jackson, of Chicago, entitled "Uterine Massage as a Means of Treating certain Forms of Enlargement of the Womb." This paper was read before the American Gynecological Society, in 1881. Very recently Prof. Jackson has expressed himself as thoroughly convinced of the efficacy of the method when properly employed. He believes, however, that it requires the manipulations of the skillful gynecologist himself, to secure anything like satisfactory results and that it is quite useless to relegate the patient to the hands of even the most skillful and painstaking nurse.

At a recent meeting of the Chicago Gynecological Society, Prof. F. H. Martin spoke of the method in warm terms of praise.

At the meeting of the Royal Academy of Medicine in Ireland, April 12, 1889, Dr. Alfred Smith reported the results attained by massage and pelvic gymnastics in six cases of prolapsus uteri. Although his results were not positively brilliant they were, notwithstanding, sufficiently satisfactory to encourage the reporter in the belief that the procedures in question possess a very high degree of efficiency. In the ensuing discussion all who participated, among them Dr. Atthill, expressed themselves as satisfied of the potentialities for good of these plans of treatment, which they welcome as important additions to the therapeutics of conservative gynecology.

In a recent discussion at a Congress of Russian physicians, a large number of cases of prolapse and displacements of the uterus treated in this manner were reported and much enthusiasm was manifested with regard to the results attained.

But it is not necessary to multiply reports of this character. Enough has already been said to indicate the widespread interest manifested. The universal expression of opinion is one indicative of great satisfaction that such a powerful adjuvant to the more familiar practices of conservative gynecology has been discovered.

But singularly enough, and little to the credit of professional gynecologists, this wave of enthusiasm was started by an outsider, so to say, for all unite in yielding the palm to Thure Brandt, of the "Central Institut" for gymnastics in Stockholm, who is not a physician at all, much less a gynecologist!

A very complete and extremely interesting description of Brandt's "hygienic-gymnastic treatment," as it is termed by the Germans, is con-

tained in a very recent publication by Dr. L. Fellner, of Vienna, in the *Klinische Zeit- und Streitfragen*. Dr. F., after having been for two months under the instruction of Brandt, returned to his home full of that kind of enthusiasm which is always infectious, though often somewhat disappointing in the end.

Brandt himself, it seems, had been actively engaged in massage from the year 1844, when in 1847 he was fortunate enough to cure a case of prolapse of the rectum. Later on, in 1861, he made a remarkable cure of a case of prolapsus uteri of twenty-seven years' standing, after a two weeks' course of treatment. This woman, he says, remained free from prolapse until her death which occurred twenty-three years later. Since then his experience with the various forms of uterine displacement and exudates, has been very extensive although for many years his results attracted comparatively little attention from medical men.

However, in 1887, his work having come to the notice of several physicians of eminence, he was introduced through the instrumentality of Profanter, to Prof. Schultze, of Jena, at whose clinic he was accorded full opportunity to display his remarkable abilities both in the direction of gynecological diagnosis and mechanical treatment. This he did to the complete satisfaction of Prof. Schultze and a number of other gynecologists who witnessed his manipulations and have since borne witness to their surprise and gratification in most cordial and unmistakable terms of praise. The reports of the cases treated by him at Schultze's clinic, were published in detail by Profanter together with an introduction by Schultze himself, under the title of "*Die Massage in der Gynäkologie von Dr. Paul Profanter*" (W. Brannmüller, 1887).

This was the real beginning of Brandt's fame; for following Profanter's publication, gynecologists began to crowd in on him to learn his methods and from them, and in turn their pupils, emanate the glowing reports which are becoming so frequent in current literature.

Brandt's treatment includes the following procedures:

1. Various active and passive movements pertaining to the so-called Swedish Movement Cure. These are generally entrusted by him to a female assistant, who applies them according to instruc-

tions which are varied to meet the exigencies of each individual case. These do not (so his pupils say) constitute essential features of a rational treatment and may be supplanted by the various hydropathic drink and bath cures dear to the heart of the true German physician!

2. Massage.

3. Stretching.

4. Replacement of the uterus (Redression).

5. Elevation of the uterus (Uterushebung).

6. Pressure upon the pelvic nerves.

7. Abduction and adduction (against resistance) of the knees.

8. Slapping of the back and tapping of the loins and sacral region (tapotement).

Massage finds its application in cases of swelling and thickening of the organs and tissues occurring as a sequence to stasis, chronic inflammations and extravasations, as well as in subacute and acute inflammation.

Stretching is never employed in cases of acute and subacute inflammation, nor in cases of exudation. It is only indicated in cases where the ligaments are relaxed and lengthened, or shortened and contracted.

The recognized indications for massage are: metritis and endometritis chronica, subinvolution of the uterus, hypertrophy and atrophy of the uterus, parametritis, perimetritis, perioöphoritis, salpingitis, pelvic cellulitis, hæmatocele and uterine displacements, in all of which it may be employed as an auxiliary mode of treatment.

The object of stretching is to lengthen the shortened ligaments and to restore tonicity to those that have become relaxed. This procedure is never undertaken during the progress of inflammation, or in the presence of exudates. The principle involved in stretching is that a muscular irritation of short duration excites contraction, while an irritation of continued action induces elongation.

Replacement of the uterus. This is accomplished by various methods and with the patient in one of several positions—standing, knee-elbow, or lithotomy. The recto-vaginal method of replacement is employed in cases where the uterus is enlarged and retro-flexed. The operation is performed with the patient in the knee-elbow position. The operator's finger is introduced into the rectum and the thumb into the vagina, whereupon the fundus is pressed forward and downward

while the cervix is pushed backward and upward.

Ventro-vaginal replacement is practiced in the lithotomy position and is accomplished by the methods of tilting, invagination of the abdominal walls, hooking in of the finger behind the fundus and by the so-called replacement pressure. Tilting is used when the uterine walls are so rigid that pressure on the anterior surface of the cervix suffices to raise the fundus until it can be grasped by the other hand through the abdominal walls. The invagination process is resorted to when the uterus cannot be tilted forward. The fingers of the external hand are made to push back, "invaginate," the walls of the abdomen until the fundus is brought within reach, while the finger of the other hand introduced into the vagina presses the portio vaginalis backward and upward. In this manner the uterus is brought into a position of anteversion.

The "hooking" process referred to, is that which is employed when the uterus is so flexible that pressure on the vaginal portion increases the angle of flexion. The finger is introduced behind the fundus which is pressed towards the abdominal walls until the external hand is able to obtain hold of it.

The "replacement pressure" is exercised when the portio vaginalis is firmly fixed anteriorly. The internal finger presses up on the fundus and holds it in position, while the fingers of the external hand press down over the symphysis upon the isthmus uteri forcing it backward. Thereupon the internal finger of the operator is changed to the anterior surface of the cervix, close under the fingers of the external hand, and for several seconds pressure is made by both hands in a backward direction. Then while the internal finger still continues its pressure, the external hand is made to glide over the anterior surface of the uterus until it reaches the superior margin of the body, when it is turned until the finger-tips are directed forward, when they are made to sink behind the fundus which is then brought into anteversion.

Ventro-vaginal-rectal replacement. This method is adopted when the fundus is so high up that it cannot be reached by the internal finger, in which case it becomes necessary to make it more accessible by downward pressure exercised by the disengaged hand. The patient is placed in the lithotomy position. The left index finger is next

introduced as high as possible into the rectum. The fingers of the disengaged hand are then laid upon the abdomen in the vicinity of the fundus and made to execute, under moderate pressure, a circulatory rubbing motion in the direction of least resistance while the effort is made to bring the fundus gradually downward and forward. If it is not possible in this way to reach the posterior surface of the uterus, the effort is aided by the introduction of the left thumb into the vagina the index finger meanwhile remaining *in situ*. The thumb is then employed to press the cervix backward, while the index finger raises the fundus until it can be grasped by the fingers of the unemployed hand when it is in this manner brought into place.

Our limits do not permit the completion of the discussion of this subject in the present issue of THE JOURNAL. In the next number we propose to discuss the method ascribed to Brand, and which no doubt originated with him. The importance of the subject is such that it merits the careful consideration of the profession.

SECONDARY STREPTOCOCCUS PNEUMONIA.

In continuation of his study of diphtheria, PRUDDEN publishes his promised researches on the etiology of pneumonia.¹ He finds uniformly in the fresh exudate in the air-vesicles of the lungs of children dead of diphtheria the same streptococcus which was always present in the pseudomembrane in the throat. As control experiments, the exudates from cases of pneumonia in children, not secondary to diphtheria, were similarly examined, and in only one case was a streptococcus found, and then in a case complicating erysipelas. The presence of the streptococcus in these pneumonias is adequately demonstrated, and there can be no doubt that it is the prime and essential etiological factor of the local disease. The relation of the streptococcus to diphtheria, however, is probably secondary and non-essential.

These researches on the etiology of secondary pneumonia in diphtheria are in perfect accord with the investigations of the bacterial condition of pneumonias secondary to other infectious diseases. We may refer to Newmann (1886), Manfredi, Tobeitz and A. Fränkel (1887), Guarnieri (1888),

¹ T. Mitchel Prudden and William P. Northrup: Studies on the Etiology of Pneumonia Complicating Diphtheria.—"The American Journal of the Medical Sciences," June, 1889.

and Babes and Raskin (1889). Each of these authors reports pneumonias, secondary to the various acute infectious diseases, the prime etiological element of which was a streptococcus. Fränkel very properly pointed out that the microbe gains access to the body through the atrium furnished by the local lesion of the primary disease.

Babes and Raskin have shown conclusively that the nephritis and synovitis, as well as the pneumonitis which follow the acute infectious diseases of children, are due, in the great majority of cases, to a secondary infection, with the *streptococcus pyogenes*.

While it is greatly to be deplored that any single institution can furnish the material for such extended researches as these of Prudden and Northup, we may take a measure of consolation from the fact that the enthusiasm and scientific courage have of the pathologists have wrung out of wholesale disaster such an important lesson. Let the medical profession recognize in the complications of the acute infectious diseases, a septic process as independent and foreign to the primary disease as suppuration and erysipelas are to the reparative process in wounds, and we shall not wait long for a method of treatment which will banish them to the seclusion which has been sought by the wound diseases and puerperal fever.

THE OPHTHALMOSCOPE.

The ophthalmoscope, at one time considered as nothing but an interesting scientific toy, has become an indispensable instrument in physical diagnosis. Its history is a succession of triumphs. The wonderful progress made within the last thirty years in ophthalmology is altogether due to this instrument. By its means the neurologist has been able to penetrate the mystery which enshrouded many cases of brain and spinal disease, and our knowledge of kidney diseases, secured from the ophthalmoscope a valuable contribution when it revealed the existence and nature of the various forms of ocular disturbances concomitant with and due to nephritic disorders. In view of these facts should not the use of so important an instrument be thoroughly taught in our medical colleges? Should not every physician be equipped not with the instrument alone, but with the knowl-

edge and experience necessary for its practical use. Yet how far we are from this state of things. How few of our graduates know how to "throw light into the eye," and of these how small the number who know what they see in the field thus illuminated. If these men only knew enough to know what they don't know, the case would not be so bad, but ignorance is proverbially arrogant, and hence the mistakes of the ignorant are prone to escape correction. It is really humiliating to witness a graduated physician attempting to examine an eye while the light reflected from the mirror is seen illuminating the wall beyond the patient's head, and how often serious blunders in diagnosis occur is best known to those who have had an opportunity to watch graduates at work with this instrument.

A more thorough instruction in the use of the ophthalmoscope is imperative, and our medical colleges should see to it that the student be thoroughly trained in its use. Of course it cannot be expected that the general practitioner shall be an expert, that should be left to the oculist, but every medical man should at least be able to recognize the difference between a transparent and an opaque lens, a normal papilla and a choked disc, and a healthy retina and one affected with retinitis. Then will men be able to recognize also their limitations, and serious blunders will not be so common. Until this condition of things is brought about we cannot lay claim to that high standard of medical education which should characterize the curriculum of the American medical colleges.

THE DISASTER.

The sympathies of the Nation for the past week have been centered upon the sufferers of the Conemaugh Valley. Ten days have now elapsed since the occurrence of that fearful calamity. The actual condition, sad as it is, is less appalling than at first reported. A conservative estimate reduces the number of dead to about five thousand. From the bulletin issued by the State Board of Health, on June 9th, we learn that the general health in the region of the disaster is excellent; that there is no evidence of epidemic disease; that the whole country has been districted and each section placed under control of a competent sanitarian—and it is confidently believed that the work of reclamation will be carried on so rapidly

and so well that the general health in the locality will be maintained. This is well, and we heartily commend the State Board of Health for this efficient action.

But the question which we wish to emphasize is this: Who is responsible for this wholesale destruction of human life? Had the Valley been devastated by a volcanic upheaval or had a cyclone swept it to destruction, human agency would not be responsible for that which it could not control. But here it is not so. The primal cause of this calamity was the work of human hands. It was legitimately under the surveillance of sanitary inspection. It could have been averted by legitimate authority and somebody is responsible for the loss of these five thousand lives.

EDITORIAL NOTES.

UNIVERSITY OF PENNSYLVANIA.—We learn from a contemporary that the Associate Professorship of Obstetrics in the Medical Department of this University, recently vacated by Dr. Howard A. Kelly who has accepted the appointment as Gynecologist to the Johns Hopkins Hospital, is not likely to be filled. It is understood that Dr. Barton C. Hirst, the present Associate Professor of Obstetrics, will also undertake the duties of Gynecologist.

A TESTIMONIAL FREE BED.—The friends of Dr. R. J. Levis, of Philadelphia, the well-known surgeon to the leading hospitals of that city, are desirous of recognizing his distinguished public services by perpetually endowing a testimonial free bed in the Polyclinic Hospital. A committee, during his absence in Europe, are endeavoring to raise \$5,000 for this purpose, and think it is eminently appropriate that the testimonial should be donated to the Philadelphia Polyclinic since he was one of its founders, its first professor of clinical and operative surgery, and from its organization has been president of the board of trustees.

The Committee having charge of raising the desired amount request that subscriptions be sent to Dr. H. Augustus Wilson, Treasurer, 1611 Spruce St., Philadelphia.

THE PHYSICIANS OF CINCINNATI and of that vicinity are making up a special train of palace cars, for the purpose of attending the meeting of the American Medical Association at Newport.

The President of the Association, Dr. W. W. Dawson, will be a member of the party, and the coach assigned to him is designated—*the President's car*.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—The following changes have been made in the Faculty: Frank Woodbury, A.M., M.D., Honorary Professor of Clinical Medicine. William B. Atkinson, A.M., M.D., Honorary Professor of Sanitary Science and Pædiatrics. John V. Shoemaker, A.M., M.D., Professor of Materia Medica, Pharmacology, Therapeutics and Clinical Medicine. James M. Anders, Ph.D., M.D., Professor of Hygiene and Clinical Diseases of Children.

MEDICO-LEGAL SOCIETY OF CHICAGO.—The annual meeting of this Society, was held on the 1st inst., when the following officers were elected for the ensuing year: President, Dr. E. J. Doering; Vice-Presidents, Dr. Boerne Bettman and Mr. Eric Winters; Treasurer, Dr. L. L. McArthur; Secretary, Dr. Edward B. Weston. Surgeon-General John B. Hamilton, of Washington, was elected an honorary member, and Drs. J. C. Hoag and H. J. Tillotson active members.

TENTH INTERNATIONAL MEDICAL CONGRESS. We are reliably informed that the Tenth International Medical Congress, to be held in Berlin, will commence on the 7th of August, 1889. The preliminary arrangements are in active progress.

We are advised that Sir James Grant and several other distinguished Canadians, have accepted the invitation to be present at the meeting at Newport.

AMERICAN LARYNGOLOGICAL ASSOCIATION.—At the Eleventh Annual Congress of this Association, held in Washington from May 30 to June 1, the following were elected officers for the ensuing year: President—Dr. J. N. Mackenzie, Baltimore. First Vice-President—Dr. Edgar Holden, Newark. Second Vice-President—Dr. C. E. Bean, St. Paul. Secretary and Treasurer—Dr. C. H. Knight, New York. Librarian—Dr. T. R. French, Brooklyn. Council—Dr. Franklin H. Hooper, Boston; Dr. George M. Lefferts, New York; Dr. Frederick I. Knight, Boston; Dr. D. Bryson Delavan, New York. Representative on the Committee of the Congress of American Physicians and Surgeons—Dr. Harrison Allen, of Philadel-

phia. Dr. Wm. C. Casselberry, of Chicago, and Dr. H. L. Swain, of New Haven, Conn., were elected to membership.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

The following additional titles of papers to be read at the approaching meeting have been received since the Programme was published in THE JOURNAL of June 1:

Section on Dermatology and Syphilography.

"Clinical Notes on Alopecia Areata," by Lewis Wickham, of the Hôpital St. Louis, Paris, France.

"General Points on the Treatment of Inflammatory Diseases of the Skin," by Oscar Lassar, Berlin, Prussia.

Exhibition of Specimens illustrating Change of Color in the Hair from the Internal Use of Pilocarpine, by D. W. Prentiss, Washington, D. C.

"Two Years' Experience with the Hypodermatic Injection of Insoluble Mercurial Salts in Syphilis," by J. N. Bloom, Louisville, Ky.

"Treatment of Syphilitic Glands by Injection of Iodine," by Fayette Dunlap, Danville, Ky.

"Eruption produced by the Internal Use of Rhubarb," by H. Goldenberg, New York.

"The Influence of Clothing on the Skin," by J. Leslie Foley, Boston.

Section on Surgery and Anatomy.

"What Dressing shall lie Next to the Womb?" by R. T. Morris, New York.

"Cranial Surgery," by H. O. Walker, Detroit.

"Unique Case of Fractured Exostosis of Pubis," by Thos. H. Manley, New York.

"Improved Surgical Pump," by Elmer Lee, St. Louis.

"The Surgery of the Spine," by Wm. White, Philadelphia.

"Incomplete Inward Dislocation of the Radius and Ulna at the Elbow," by Albert F. Stifel, Wheeling.

Section on Ophthalmology.

"Insufficiency of the Recti Muscles, with Report of Cases," by J. E. Colburn, Chicago.

In the published programme for this Section the title of Dr. P. D. Keyser's paper appears "Glaucoma Fulminans, after Operations," when it should be "Glaucoma Fulminans after Cataract Operations with Iridectomy."

Section on Dental and Oral Surgery.

"The Origin of Pus," by W. H. Atkinson.

Series of Lantern Exhibits in Embryology, by W. Xavier Sudduth, M.D., DD.S., F.R.M.S., of Philadelphia.

The lantern used will be the new and improved lantern of the McIntosh Battery and Optical Co., and will be operated by Dr. McIntosh, of Chicago.

"Teeth of Pregnant Women," by John Marshall, of Chicago.

PROPOSED RULES FOR SECTIONS.

The following rules are recommended for the government of the Sections:

1. Reading of papers limited to twenty minutes each.

2. Discussion limited to five minutes for each speaker.

3. All who take part in the discussions do so with the *express agreement* that they will write out the substance of their remarks for publication, before leaving the room.

CHANGES IN PROGRAMME.

We have been requested by Dr. H. R. Storer, Chairman of the Committee of Arrangements, to publish the following alterations in General Programme:

First Day. Under Announcements, insert "that Rush Monument Committee meets at Music Hall immediately after adjournment, and that the Sections and Judicial Council meet at 2 P.M., at the Casino," etc.

Alter to "Addresses of Welcome by His Excellency, Hon. Herbert W. Ladd, Governor of Rhode Island," etc.

Second Day. Prayer. R.R. Thos. M. Clark (Episc.), Bishop of Rhode Island.

After Dr. Pepper's Address, insert "Report of Rush Monument Committee."

Third Day. Prayer. Rev. James Coyle (R. C.) of Newport; R.R. Dr. Harkins, Bishop of Providence, being prevented by duties attending the consecration of the Cathedral of the diocese.

Strike out Report of Rush Monument Committee.

Fourth Day. Meeting at 10, instead of 9.

"Prayer. Rev. D. A. Jordan (M. E.), Presiding Elder, Providence District, N. E. Southern Conference."

RAILROAD ARRANGEMENTS FROM NEW YORK.

Dr. Liston H. Montgomery, of Chicago, a member of the Committee of Arrangements, informs us that the Old Colony Railroad will sell tickets from New York and all points on their line at a fare and a third (certificate plan) for the round trip, thus enabling those who go from points west of Buffalo, Niagara Falls, Pittsburgh and Wheeling, after they purchase their tickets to New York, to avail themselves of this reduction.

The round trip fare by Fall River Boat Line is \$4.50, by rail, Short Line, \$7.65.

"THE AMERICAN MEDICAL ASSOCIATION ANNUAL."

We are requested by the Chairman of the Committee of Arrangements, Dr. H. R. Storer, to

state that he peremptorily refused to give any aid or information to the outside party referred to in the "Special Notice" published in the editorial department of THE JOURNAL on June 1.

SOCIETY PROCEEDINGS.

American Laryngological Association.

Eleventh Annual Congress, held in Washington, D. C., May 30, 31, and June 1, 1889.

FIRST DAY.—MORNING SESSION.

The Association was called to order by the President, DR. ETHELBERG CARROLL MORGAN, of Washington, who delivered the

PRESIDENTIAL ADDRESS.

He expressed the profound pleasure which he experienced in welcoming the Association to the National Capital, the home of the scientific libraries, laboratories and museums, fostered and encouraged by a liberal government. The Association had wisely followed in the wake of numerous other scientific bodies, which make pilgrimages to our city and exert a healthy influence toward popularizing their special fields of scientific investigation. The noble work of this Association during its eleven years of existence has resulted in placing laryngology upon a substantial basis and in demonstrating its truths and benefits alike to the profession and to suffering humanity. The outlook for laryngology was never brighter than at present.

The tenth volume of the "Transactions" is now in press, and in addition to the papers read at the last meeting of the Association, contains a table of contents of all the papers read to the Association since its organization.

An important amendment to the constitution, increasing the limit of active fellowship, comes up at this meeting. The present limit is fifty, and there are at present no vacancies.

Our library now contains nearly 900 separate titles. The librarian thinks that the collection would be more accessible if in charge of the Surgeon-General's office, and recommends its donation to that library. The Association has lost no members by death since the last meeting.

After some suggestions in regard to the social features of the annual meetings, the president closed by reiterating the assurance of his heartfelt appreciation of the good-will and friendship which had influenced the Association in selecting him as the president of this distinguished body.

DR. E. CARROLL MORGAN, of Washington, D. C., reported a case of

REMOVAL OF A SUPERNUMERARY TONSIL.

The patient, a male, æt. 26 years, vigorous and

otherwise healthy, came under observation Sept. 7, 1886, with what he feared was malignant disease of the pharynx. The growth was first discovered four years previous. It had occasioned considerable pain, especially after smoking. During the past two months the growth had rapidly increased in size and the pain had become of a shooting character, extending to the ears, larynx and top of the head. Examination revealed a pendant tumor between the right palatine folds near the uvula and protruding beyond their borders half an inch. The tumor was as large as a small almond. Its color, as well as that of the pillars, was a dusky red. Slight engorgement of the cervical glands appeared to exist. The patient's mother had died of cancer of the breast, and he felt convinced that the growth was malignant. Local and general treatment having no effect, the tumor was excised and the raw surface cauterized with the hot iron. In ten days the wound had healed. The patient was recently examined and there had been no recurrence, now four years after the operation. The specimen removed was examined by Dr. W. M. Gray, microscopist to the Army Medical Museum, who stated that its structure was identical with that of a faucial tonsil which had undergone hypertrophy. The location and microscopic characters of this tumor, as well as the history of the patient prior and subsequent to the operation, proves that this was a hypertrophied accessory or supernumerary tonsil, an exceedingly rare anomaly. A search of the literature had revealed only two other cases of a similar character, reported by Jurasz in 1885. In the first case the tumor was as large as a hen's egg, and was found to spring from the lower anterior portion of the right posterior pillar, by a small and short pedicle. It was removed and found, on microscopical examination, to present the structure of a hypertrophied tonsil. In the second case the tumor was of the size of a hazelnut, and attached below the right tubal prominence. The microscope revealed a structure similar to that of the faucial tonsil.

Conclusions.—1. The lymphoid follicles of the soft palate and pharynx are liable to be aggregated, resembling in arrangement the faucial tonsil. 2. The condition is exceedingly rare, since, excepting the so-called "pharyngeal tonsil," the author has found but one case reported. 3. These lymphoid follicles are also liable to hypertrophy. 4. Such hypertrophies probably occur oftener than is generally supposed. 5. The indications for operative interference in this condition are identical with those for the faucial tonsil.

DR. D. BRYSON DELAVAN, of New York, thought that possibly cases of supernumerary tonsil were not so infrequent as was commonly supposed. Pedunculated tumors of the tonsil which, on examination, show a fibroid structure, are not rare, and it may be that there are degen-

erated supernumerary tonsils; just as the tonsil may, from long continued inflammation, become the seat of fibroid change.

DR. GEORGE W. MAJOR, of Montreal, read a paper on

THE RELATION BETWEEN FACIAL ERYSIPELAS AND ERYTHEMA ON THE ONE HAND, AND INTRA-NASAL PRESSURE ON THE OTHER.

The following cases were cited to show that facial erysipelas may be produced by nasal conditions, particularly when they are productive of pressure:

Case 1.—A girl aged 12 years came under my observation in March, 1884, for the treatment of nasal catarrh. There was a general hypertrophic condition, with pressure of the middle turbinated body of one side against the septum. On the cheek bone of the same side there was a red patch of erythema, which had existed for five months. Treatment of the nasal condition by scarification, puncture and galvano-cautery was followed by disappearance of the erythematous rash, and it has not returned.

Case 2.—A child 4 years of age was seen in February, 1885, suffering with facial erysipelas, commencing on the bridge of the nose and extending to the cheeks. It had already lasted five days, and was not disposed to yield to treatment. Both nostrils were occluded by swelling. All treatment directed to the relief of the erysipelas was suspended, and attention directed to the relief of the nasal condition. In twenty-four hours the erysipelas had disappeared.

Case 3.—In the winter of 1884, a boy, aged 12 years, the subject of recurring attacks of erysipelas, was seen with an attack involving the nose and cheeks. Nasal injections alone were used, and the erysipelas disappeared in thirty-six hours.

Case 4.—February, 1889, a female, aged 56, presented herself with an erythematous patch on the left cheek. This had lasted four months. There was swelling of the left turbinated bone, which pressed against the septum. Under treatment of the nose the erythema disappeared in the course of a week.

Six other cases were alluded to, in which the same condition was seen.

DR. J. O. ROE, of Rochester, had seen a number of cases of erythematous rash due to the nasal trouble. A case recently seen was that of a girl, 23 years of age. There was a very red erythematous patch on the face associated with blebs. She had been treated by various physicians without benefit. In both nares the middle turbinated bodies pressed firmly against the septum. This was relieved and there was immediately a subsidence of the erythematous trouble. He, however, could not admit that erysipelas is due *per se* to the intra-nasal trouble. He held that erysipelas is an infectious disease

due to a distinct germ. The presence of erosions in the nasal cavity would render the patient more liable to become infected.

DR. J. N. MACKENZIE, of Baltimore, said that the relation between erythema of the nose and face and intra-nasal trouble had been recognized centuries ago in the time of Willis and by Sylvius. He himself had seen many cases of this kind, but he had never seen true erysipelas due to this cause. So-called facial erysipelas seems to be comparable to an accentuation of the act of blushing—a sort of chronic blush.

DR. WILLIAM H. DALY, of Pittsburgh, was not a believer in the theory of intra-nasal pressure. The evils referred to pressure are really due to intra-nasal turgescence. The condition of erythema is nothing more than a condition of hypernutrition due to a permanently dilated and enlarged blood supply. He believed that the term chronic facial erysipelas is a misnomer.

DR. F. I. KNIGHT, of Boston, remarked that in these cases of erythema of the nose and face he always looked for nævus and very often found it. Where the trouble has been relieved, the affection of the skin has disappeared.

DR. D. BRYSON DELAVAN, had seen several of these cases, and in three or four the erysipelatous attacks have been severe. One case, a girl of 17 years, had recurrent attacks of severe erysipelatous swelling from the alæ of the nose extending over the cheek. These recurred at intervals of two or three weeks. There was marked turgescence of the nasal mucous membrane. This was treated topically, and with the subsidence of the catarrhal trouble the attacks of erysipelas disappeared.

DR. SAMUEL W. LANGMAID, of Boston, then reported

A CASE OF ACUTE MULTIPLE ADENITIS (SEPTIC?)
CEDEMA OF THE LARYNX WITH SPONTANEOUS CURE.

He was called to see a lady, æt. 40, who had been sick for seven days, under the care of an irregular practitioner. The patient was found restless, with an anxious expression, breathing with difficulty, and with a dry, croupy cough. There was no lividity of the face, but it was stated that during the preceding twenty-four hours there had been danger of strangulation. The submaxillary glands, as well as those in the region of the neck, were much swollen. Temperature 99°; voice fairly loud and clear; no enlargement of the tonsils; nothing unusual in the naso-pharynx. With the laryngoscope a tumor, apparently as large as a filbert, was seen occupying the posterior arytenoid space. The anterior third of the vocal cord could be seen approximated and scarcely moving during respiration. He learned that the throat had not been examined until four days after the commencement of the attack. As

the patient was breathing fairly well it was decided to do nothing. If necessary, the tumor in the larynx was to be incised. A few hours later something was felt to break in the throat, and a free mucoid discharge took place. Three hours later, nothing could be seen but the erect epiglottis, with muco-purulent matter welling up. There was a continued discharge, but the relief to breathing was not complete. There had been, also, the discharge of half an ounce of pus. The discharge continued for several days, and the patient gradually recovered.

It was thought that the case was in all probability due to diphtheria, the evidences of which had passed away when the author examined the throat. The patient stated that at the commencement of the illness, the throat had been sore, and that on one side she had noticed red spots on which there had been a white covering.

DR. WM. C. GLASGOW, of St. Louis, read a paper on

AN ŒDEMATOUS FORM OF DISEASE OF THE UPPER AIR-PASSAGES.

He described an œdematous form of disease which had been epidemic around St. Louis for some two years. During the existence of this affection there has been a disturbance of the ordinary catarrhal troubles. In all cases of this disease there is found a pale, œdematous condition of the fauces. This is a solid œdema. A peculiar glistening appearance is at times very marked. In the majority of cases the soft palate is the seat of œdema. At times the nasal mucous membrane is found in the same condition. The epiglottis and different portions of the larynx may be involved. In some cases the true cords are markedly œdematous. A swollen condition of the veins, particularly the palatine veins, is present. This sometimes causes purpura-looking spots, and the mucous membrane appears mottled. In two cases these purpura-looking spots had been seen in the trachea. In one case enlarged veins were seen on the true cord. In some cases ulceration occurs. In some cases, in addition to œdema, there were patches of exudation in different parts of the throat. These when removed leave a bleeding surface. The symptoms of the disease and the appearance of the throat preclude the diagnosis of diphtheria. In six cases spots of mycosis were seen. Glandular enlargement of the neck is quite frequent. In two cases suppuration occurred.

The symptoms are constitutional and local. The affection occurs suddenly in persons of previous good health. There is languor, weakness, and general pains throughout the body. Headache is present, usually frontal, sometimes occipital. In many cases it is simply a dull heavy feeling, in others it is an intense violent throbbing pain. Pain in the back in the region of the

sacrum is a characteristic symptom. Fever is present in varying degree. In the exudative cases, the disease commences with chill followed by fever, and the temperature may reach 105°. This soon passes off, and we have a subfebrile condition remaining, probably with a temperature of 101°. This continues a short time, and then there is a return to the normal temperature. When there is simple œdema, the temperature scarcely ever rises above 101° to 102°. This remains for only twelve hours, and during the remainder of the attack the temperature is normal. The pulse is always rapid, soft, and compressible; there has been no exception to this noted. The pulse ranges between 90 and 110 per minute. Profuse sweating is often present, especially during the night. It may be localized.

AFTERNOON SESSION.

DR. JOHN N. MACKENZIE read a paper on
SOME POINTS IN THE PATHOLOGY AND TREATMENT OF DISEASES OF THE NASAL PHARYNX.

The following conclusions were presented :

1. The nasal pharynx is in quite a large proportion of individuals exceedingly sensitive to reflex-producing stimulation.

2. The areas chiefly involved are the posterior portions of the turbinated erectile tissue, and various points along the upper and posterior portions of the nasal pharynx.

3. In consequence of this extreme sensitiveness, a local pathological process which in many persons would give rise to no reflex neuro-vascular changes may awaken a host of neurotic phenomena referable not only to the region primarily involved, but also to others and even remote organs of the body. These may include cough, asthma, and various neuralgic affections; or the local structural lesion may be the starting-point of various sympathetic affections of the respiratory tract.

4. That these classes of naso-pharyngeal neuroses are explicable on the same general principles laid down in the article on neuroses of the nose, and the pathology of the nasal and post-nasal affections is, therefore, one and the same.

5. That the treatment should be carried out according to the general directions laid down in the article just mentioned.

6. That when morbid processes originate in the pharyngeal tonsil, attention should not be directed to the bursa alone, but an endeavor should be made to extirpate the tonsil as far as possible in its entirety.

7. That while a favorable prognosis cannot be safely predicted by the treatment of the bursa alone, extirpation of the pharyngeal tonsil often affords a most favorable prospect in long-standing cases of post-nasal trouble.

DR. D. BRYSON DELAVAN then presented some

OBSERVATIONS UPON THE CONDITION KNOWN AS
ADENOID HYPERTROPHY AT THE VAULT OF
THE PHARYNX, AND THE METHODS
USED FOR ITS REMOVAL.

A case was described in which with each acute attack of catarrhal trouble there would be enlargement of the adenoid tissue of the vault of the pharynx, forming a large tumor. When the attack passed away the hypertrophy disappeared. The author then referred to the methods of operation and the accidents which might occur. As the operation was attended with considerable pain he suggested the employment of anesthesia. He had in a number of cases employed chloroform with satisfactory results, the object being to avoid the profuse mucoid secretion which is apt to follow the use of ether. Where chloroform is used the operation is performed with the patient on his back.

DR. F. H. HOOPER, of Boston, reported a case of a young lady who came to him with acute coryza and in whom he found a large-sized adenoid of the vault. After the attack subsided, the adenoid almost entirely disappeared. In order to avoid error, the post-nasal probe should always be used. With it conditions not apparent to the eye may be recognized. He had never seen serious hemorrhage follow operations for the removal of the tissue. In operating he first removes all that is possible with the post-nasal forceps and completes the removal with the finger-nail. He had never used chloroform. The amount of secretion after the use of chloroform varies very much in different cases.

DR. HARRISON ALLEN, of Philadelphia, advocated the use of the finger as a means of detecting these post-nasal affections. To examine the case thoroughly requires the use of an anæsthetic. In the treatment of adenoid hypertrophy, it is better to remove all the diseased tissue at one sitting under ether than to remove it in portions at different times.

DR. J. C. MCLHALL held that for practical purposes the pathology of the pharyngeal tonsil was exactly the same as that of the faucial tonsil. In operating, he had applied cocaine thoroughly to the pharyngeal wall and soft palate to avoid the disagreeable sensation caused by the scraping of the forceps against the healthy pharyngeal wall, and had succeeded very well.

DR. F. I. KNIGHT related a case of acute hypertrophy of the faucial tonsil in which the surgeon performed tracheotomy preparatory to removing the tumor. When he came to operate he found that the growth had disappeared.

DR. WILLIAM E. CASSELBERRY, of Chicago, referred to the importance of thoroughly eradicating these growths. In two cases in which portions of the mass had been left, the reflex symptoms, while greatly lessened, continued to recur. In two cases he had attempted to use the mirror

during operation. To do this he pulled the soft palate forward by two rubber bands, passing through each nostril. In one case he succeeded to a certain extent, but in the other failed. This procedure, however, greatly facilitated the operation. In order to prevent the passage of blood into the larynx he was in the habit of bending the head forward at intervals in order to allow the escape of the blood.

DR. J. N. MACKENZIE, as a rule, operates without anæsthesia, removing a portion of the mass every day, or every other day, continuing the operation for a week or ten days. He had seen very little pain from the operation. There is one point in regard to the nature of this so-called adenoid. He had examined a number of these growths under the microscope and they do not differ from papillomatous growths. There is also in addition a true adenoid growth; this is more difficult of removal than the former.

DR. F. H. HOOPER read a paper on

EXPERIMENTAL METHODS OF STUDYING THE AC-
TIONS OF THE INTRINSIC MUSCLES
OF THE LARYNX.

He exhibited the apparatus which he had employed in studying the effect of stimulation upon the internal thyro-arytenoid, the lateral crico-arytenoid, and posterior crico-arytenoid muscles. The larynx of a dog is quickly excised, the mucous membrane removed, and the muscles subjected to electrical stimulation.

The local symptoms vary with the part of the throat invaded. Sometimes they are prominent, sometimes they are wanting. Hæmorrhages are common, are usually slight, but recur frequently.

This is a constitutional disease, due, the author believes, to some change in the blood; exactly what, he was unprepared to say, but probably due to microorganisms. He thought that the disease described was nothing more than influenza, the same influenza which has been described so often, particularly by Graves. The disease has not been limited to the Mississippi Valley, for the speaker had seen cases of it from all parts of the country.

The treatment is very simple. The system must be saturated with benzoate of sodium. Under this remedy the affection subsides in a few days or hours. If left to itself it may continue for weeks or even months.

DR. W. H. DALY, of Pittsburgh, had seen a number of cases similar to those described. He did not consider the condition as one of œdema, but rather as a subacute inflammatory condition of the mucous membrane. There was a sufficient number of these cases which had thin and superficial diphtheritic patches in various parts of the fauces to warrant him in considering the disease of a diphtheroid character. This view was confirmed by the subsequent occurrence of glandular enlargement in nearly all the cases.

DR. J. C. MULHALL, of St. Louis, confirmed the statements of Dr. Glasgow from his own experience with the disease in St. Louis, and reported a case in which the affection had recurred three times.

DR. S. H. CHAPMAN, of New Haven, had seen cases similar to those reported, but agreed with Dr. Daly that they are rather of a diphtheritic character. In one case the disease attacked a child of 17 months. In the same family was a boy 9 years of age with well-marked diphtheria. The first thing noted in the case of the child was a dense swelling of the submaxillary gland. There was great prostration and some fever, 100° – 102° . The swelling increased until it extended from the jaw to the clavicle. There was hoarseness and difficulty of breathing, which daily increased. By the seventh day it had increased so much that deep incisions were made into the gland, but no pus was found. A tube was then inserted into the larynx and allowed to remain four days. The child during this time was kept alive by rectal alimentation. At the end of *thirteen* days the swelling began to diminish. The knife was again used and a quantity of pus discharged. The child recovered.

DR. C. E. SAJOURS, of Philadelphia, referred to a case of this disease which occurred in a young man living on a farm in New Jersey, twenty miles from any neighbors, and who had not been exposed to diphtheria. The throat presented small white patches not resembling the yellowish leathery membrane seen in diphtheria. Slight oedema of the soft palate was also present. The temperature was high throughout the entire course of the disease. There was incessant pain in the back and in one limb. After trying a number of remedies, he was placed upon benzoate of sodium.

DR. W. C. GLASGOW, of St. Louis, remarked that he had at first regarded these cases as diphtheritic. In these cases the membrane is adherent; it can be torn away, but a bleeding spot is left. Applications made it worse. If left to itself, it gradually grows thinner and thinner until it resembles a white pearly patch. Diphtheritic membrane does not pursue such a course. The glandular enlargements always occur, even when there is no exudation. He did not think that any one would assert that this oedema was diphtheria.

DR. W. H. DALY, of Pittsburgh, made some remarks on

THE INTIMATE RELATIONS OF CHRONIC DISEASES OF THE UPPER AIR TRACT AND NEURASTHENIA.

His experience had led him to believe that there was an intimate relation between conditions of the intra-nasal cavities and neurasthenia in some of its forms. This view was based upon the study of twenty-five cases. In these cases removal of the nasal trouble was followed by relief of the neurasthenic condition, no special treatment being directed to the general condition.

DR. J. O. ROE, of Rochester, said that most of the members had seen many such cases, and they illustrate the effect that a constant local irritation will have upon the system. A constant nagging of a local irritant will sooner or later produce a depressed condition of the system.

DR. F. W. HINKEL, of Buffalo, remarked that before we could admit that neurasthenic conditions could be the result of any nasal lesion as the sole cause, a careful analysis of all the constituent conditions would be required.

DR. S. W. LANGMAID, of Boston, thought that often the nasal trouble was the result of the neurasthenia. It often happens that operative interference fails to relieve the nasal condition because the neurasthenia is not cured.

DR. C. E. SAJOURS, of Philadelphia, was inclined to support rather vigorously the view of Dr. Daly. In a number of cases he had observed that there were fluctuations in the nervous condition according as the local disease improved or became worse. In one case of neurasthenia associated with deviated septum, correction of the displacement was followed by improvement in the nervous condition. The operation, however, failed to be permanent, and with a return of the deviation the neurasthenic condition recurred, to again disappear with a more thorough operation upon the septum.

DR. F. I. KNIGHT then read a paper on

DYSPHONIA SPASTICA.

He briefly reported the four cases of this affection which he had seen in the last seven years. He regarded the condition as rare; there is probably a spasmodic action of the muscles of phonation, or respiration, or both, giving rise to a high-pitched, jerking voice. The prognosis is unfavorable. The object of the paper was to elicit reports of other cases.

DR. G. W. MAJOR had seen one case of aphonia spastica and two cases of dysphonia spastica. In none of the cases was benefit obtained by treatment.

DR. S. W. LANGMAID had reported one case in which treatment was unsuccessful. The patient, when he had to use his voice, prescribed for himself a little whiskey, and this answered temporarily. There seems to be no change in the voice since the affection first came on, fifteen years ago.

DR. DELAVAN said that in one case coming under his observation the patient was able to talk tolerably well after fortifying himself with a stimulant. This patient seemed to improve under local treatment to the larynx and vocal training, but the treatment could not be continued.

DR. C. E. BEAN, of St. Paul, had seen one case two years ago. Various methods of treatment had been employed without benefit. The voice is now the same as at the commencement.

DR. RUFUS P. LINCOLN, of New York, read a paper on

RECURRENT LARYNGEAL GROWTH.

The patient had come under the care of the late Dr. Elsberg, twenty-four years ago. Dr. Elsberg first operated by the intro-laryngeal method, but could not remove the growth. Twenty-two years ago he did laryngotomy and removed the growth. The microscopical examination made at that time was unsatisfactory. There was no further trouble until a short time ago when the growth recurred. Dr. Lincoln recently removed the tumor, which on microscopical examination proved to be a papilloma.

(To be concluded.)

Connecticut State Medical Society.

Ninety-eighth Annual Meeting held in Hartford, Conn., May 22 and 23, 1889.

FIRST DAY.

DR. GEO. L. PORTER, the President of the Society, in delivering his Address, made remarks on the present standing of the Society, and agreed with the President of last year, that radical changes should be made in the manner meetings are now held, alternately at New Haven and Hartford.

DR. W. W. KNIGHT, the Treasurer, reported that there was a balance in the treasury of \$277.24.

The election of officers resulted as follows: President, Dr. O. Brown, of Washington; Vice-President, Dr. Melancthon Storrs, of Hartford; Treasurer, Dr. W. W. Knight, of Hartford; Secretary, N. E. Wordin, of Bridgeport; Committee on Matters of Professional Interest, Dr. Henry Fleischner, Dr. C. H. Beach, Dr. F. D. Edgerton; Delegates to the Pharmaceutical Association, of 1890, Dr. C. A. Lindsley, Dr. F. J. Young, Dr. O. J. D. Hughes; Delegates to American Medical Association, Drs. F. H. Wiggins, M. Storrs, M. A. Cremin, R. S. Goodwin, W. Cummings, J. Olmstead, C. N. Alling, E. T. Bradstreet, F. L. Smith and Wm. Winter. Delegates were also appointed to attend the State meetings of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York and New Jersey.

Dr. E. M. Moore, of New York State, was elected an honorary member, and the name of Prof. Wm. H. Welch, of the Johns Hopkins University, was proposed. This, in accordance with a by-law, went over for one year. After transacting other business of minor importance the meeting adjourned.

In the evening the members were received at the residence of Dr. Wainwright.

SECOND DAY.

The meeting was called to order at 9 A.M. The Secretary, Dr. N. E. Worden, reported that there had been 32 new members admitted during the year, and that present membership is 508.

DR. L. B. ALMY, Chairman of the Committee on Matters of Professional Interest, gave the results of papers sent to the doctors in different parts of the State, asking what had been their experiences with antipyrin, antifebrin, phenacetin, sulphonal and saccharin. The drugs had been pretty thoroughly used and generally the results were satisfactory.

DR. P. H. INGALLS of Hartford, read a paper on

UTERINE CANCER.

The author thought no faith was to be put in the hereditary theory. He said that the theory of local origin was fast gaining ground and he would not be surprised if in the future a germ would be isolated as the cause of cancer. The generally accepted causes are age, child-birth and injuries. Thomas says he never knew a woman to have uterine cancer who was never pregnant. Early diagnosis was very important, and if there was any suspicion of cancer the microscope should be used to decide. Surgical interference was the only treatment, except opium for pain and a solution of permanganate potassium for the bad-smelling discharges. Good hygienic surroundings were of course necessary. Operation should be early and thorough. If the disease had extended beyond the uterine tissue it was too late to operate, as it only increased the inflammation. He spoke of the different operations, but preferred vaginal hysterectomy.

DR. J. G. HOLMES, of New Britain, read a paper on

SCARLET FEVER.

This paper was a general review of the disease with the treatment and hygiene.

DR. SETH HILLS read a paper entitled

PHTHISIS PULMONALIS.

The theory of contagion in this disease was spoken of, and the author claimed no one had consumption without taking it from some outside source. The typhoid-fever germ was hunted to its death, while the germ of consumption, that most widespread of all germ diseases, is allowed "to go scot free." The medical profession should take some decisive action. He thought the time was not far distant when the patient with tuberculosis would be isolated from the healthy.

THE PRESIDENT in his address gave greeting to those present and reminded them that they were responsible for the future of the Society. The meeting in Paris for the consideration of phthisis, he thought, was the most important medical event of the past year. At that meeting

it was shown that it was the opinion of most present that consumption was probably contagious. Health was a factor of political economy. Anything to prevent sickness or to alleviate it was an act of statesmanship. The State ought to enact laws to govern the sick and the healthy, so that disease would be reduced to its minimum. The prosperity of the country depends upon the common people, and our country is more dependent upon the health and character of its people than any other. Public health is public wealth. When a laborer is taken sick he becomes a burden to the community. He quoted statistics to prove that the loss to the country by sickness is about \$392,000,000 yearly, and when a pestilence sweeps the country the amount is vastly larger. Boards of Health are now appointed to prevent the spread of disease, and the amount of good they do can be seen by the results that have been obtained in so greatly reducing the number of cases of small-pox. The question of the future is how to prevent disease. This could not be solved by the busy practitioner in the sick-room, but must be done in the laboratory.

DR. G. H. JENKINS read a paper on the *Pollution of Sources of the Supply of Water and Ice.*

Chronic Pachymeningitis Interna was the title of a paper by Dr. J. F. Calef, and a paper on *Fractures* was read by Dr. C. B. Newton.

Philadelphia County Medical Society.

Stated Meeting, April 10, 1889.

THE PRESIDENT, W. W. KEEN, M.D., IN
THE CHAIR.

(*Concluded from page 821.*)

SPECIMENS EXHIBITED.

DR. J. PRICE: Mr. President, I have here a small group of ovarian cysts of mixed character, removed early. The patients were all sufferers. One had been under rest treatment for fourteen months. This one was removed by Dr. Müller, of Germantown. It is a typical example of a parovarian cyst with a large, healthy ovary and slight adhesions. There was a small cystoma of the other ovary. Most of these small cysts occurred in young women. This small dermoid I removed from a patient aged 19. The operation was done four months ago, and she is now pregnant at the second month.

This was a fibroid in the left broad ligament, which had evidently gravitated into this position, and was removed per vaginam.

I have here three specimens of typical extra-uterine pregnancy. This large one was almost of the size of a child's hand. This was a case of Dr. Bernardy's, in which he made a positive diag-

nosis. The placenta and membranes are inside. On the other side there was a hydrosalpinx. This demonstrates the theory of Mr. Tait in regard to the causation of tubal pregnancy, *i.e.*, desquamative salpingitis. In the second place the placenta is in position. All of those specimens have been examined under the microscope, and there is no question as to the diagnosis.

I do not wish to give complete histories of the patients from whom these specimens were removed. In many cases they are very similar. Most of them had been subjected to a great variety of treatment and torture, and had not been benefited. Some made narrow escapes from death. Some were pus tubes, unilateral, or bilateral, some recent, some long standing. In some of the latter it was difficult to say which was the tube and which was the ovary. In a few cases there was abscess of one or both ovaries. In a few cases there existed a small broad ligament cyst. Many of these tubes were enlarged, some being as large as the fundus of the uterus.

I have here a fresh tube removed by Dr. Hoffman. Here is a group of abscesses of the ovaries co-existing with pus tubes. In many of these there were several distinct abscess cavities. If tapping had been resorted to in these cases it would have been necessary to have tapped several cavities.

In this group I have six cases that refused operation from one to five years ago. We are often asked what becomes of the patients who refuse operations. Some die in the hospitals. These cases drifted around among other doctors, and finally returned for operation. Two cases in which I had urged operation, one four months ago, the other six months ago, came to me at midnight, stating that the temperature was 104° and the pulse 140, and requesting an immediate operation. In both I refused to operate until the following day, and both recovered from the operation.

We are often told that the fluid portion of the pus may be absorbed and the patient recover. This may be true in some few cases, but the matter still remains as a source of mischief. These pus tubes are not rarely the cause of psoas abscess. In one case, which I sent to the Pennsylvania Hospital, the psoas abscess was due primarily to pus tube and abscess of the left ovary—demonstrated post-mortem.

This is a very large dermoid. I had picked this case out for operation, five years ago, at that time there was a small tumor behind the uterus. After I saw her five years ago she conceived and bore a child, and suffered some post-puerperal trouble. The existence of a small tumor is unquestionably a common cause of post-puerperal trouble.

The patient from whom this tube was removed was very ill when I was asked to see her by Dr.

Hoffmann, two weeks before the operation. I found her leaking copiously with a rapid thready pulse, and thought that she would die on the table if an operation were attempted. Under treatment her condition was somewhat improved, and the operation performed. I shall open this tube before you. It contains a fluid that looks like pus. This tube contains several sacs. This is an interesting point in connection with the Martin method of dealing with pus tubes by tapping. A single tapping would not reach all of the sacs.

DR. JOSEPH HOFFMAN: I have a word to say in regard to diagnosis in connection with my own specimen. I first saw the patient six weeks ago. She had been under the observation of a gentleman who thought she was pregnant. I found trouble on the right side, but did not discover that on the left side as I did not look for it. I considered the mass on the right side either a complication of the bowel, a pus-tube, or extra-uterine pregnancy. It turned out to be a pus-tube. In the course of a few days the patient developed symptoms of typhoid fever. Previous to this there had been no symptoms of fever and no other symptoms, with the exception of pain in the pelvis. She was suddenly seized with nose-bleed, high fever, and for several days the temperature followed the ordinary course of that of typhoid fever. It was this that placed her in the condition in which Dr. Price found her. The strange point is, that up to this time the woman had never had fever, nor any of the ordinary signs of pus. Nor had there been symptoms of peritonitis. The woman was in a very bad condition at the time of the operation. After the operation the temperature was below normal and she was covered with a cold sweat. She was only kept up by the careful application of heat. During the six days following the operation the highest temperature was 102.4. To-day, the tenth day, it is 98.8. There was universal peritonitis. The omentum was adherent, and no attempt was made to loosen it. This case shows that the statement that the peritonitis from such a cause is local, and not general, is nonsense. The only symptom that I dislike is a small discharge of pus from the drainage tube.

DR. M. PRICE: Large ligatures are useless. The smaller the ligature that will do the work the better. The ligature shown by Dr. Penrose is too large. In my case of removal of the kidney I applied two ligatures, one large and the other small. The large one worked through the back three months after the operation, and there was absolutely no change in it. I believe that in intra-peritoneal operations large ligatures are dangerous.

DR. C. B. PENROSE: The first specimen is a very unusual specimen of a fibroid uterus which has undergone cystic degeneration. I removed it

this morning by abdominal section. There was in the upper part of the tumor a cyst containing three quarts of fluid. This was tapped before the tumor was extracted. In all, five quarts of fluid were contained in the tumor, and the sense of fluctuation was as great as in an ovarian cyst. The cavity of the uterus would hold a quart of fluid, and is separated from the cysts throughout the tumor only by a membrane as thin as peritoneum.

The next specimen is an unusually large hydrosalpinx removed from a woman twenty-five years of age. It contained ten ounces of straw-colored fluid. The cyst wall was thin and transparent.

The third specimen is a hæmato-salpinx removed from a woman aged fifty-three years, with fibroid of the uterus of the size of a child's head. This case illustrates the fact that in many cases of uterine fibroid there exists disease of the tubes and ovaries. This has an important bearing upon the method of treatment employed in these cases. The removal of the ovaries not only stops bleeding and causes shrinkage, but it also takes away diseased and dangerous structures; a result not possible to obtain by means of drugs or electricity.

I have here a ligature removed from a woman who had suffered for twelve months from a sinus and fecal fistula which had followed operation for pyosalpinx, in one of the hospitals of this city. The sinus involved a drainage tube tract. When I operated much of the small intestine was found adherent in the pelvis and at the bottom of the fistulous tract, lying on the sigmoid was this ligature, in immediate contact with the opening into the bowel. This was undoubtedly the cause of the sinus and the fecal fistula. The ligature is unnecessarily thick, and the knots would be likely to render it irritating. The wall of the fistulous tract, as you can see, was formed of well-organized lymph.

The case shows the danger of permitting a drainage tube sinus to run too long without surgical interference. In this case there was, for the first few months, only a purulent discharge, but the walls of the bowel finally became destroyed, and a fecal fistula resulted.

Allegheny County Medical Society.

Special Meeting, March 19, 1880.

WM. F. KNOX, M. D., PRESIDENT, IN THE CHAIR.

DR. DUFF: Two months ago I reported a case of rheumatism, or rather a case of rheumatism associated with eruptions around the joints; at the time I did not understand the case, and could not say what the outcome would be. The rash

was first papillary, then vesicular, following up in the order of the joints attacked. A few days after, I found several large blebs over the shoulder, just such as we have arise after the application of cantharides plaster. As they dried up, the submaxillary glands and cervical glands began to enlarge and continued until suppuration occurred, and discharged large amounts of pus. After suppuration occurred, the young lady improved rapidly. I am still at a loss to account for the condition, and promised that I would give the result of the case.

DR. PAINTER reported a case of

CONGENITAL MALFORMATION OF THE SOFT PALATE.

Mrs. F., æt. 40, a widow eight years, consulted me on account of hoarseness following a cold. Inspecting the pharynx, I found an unique anatomical relation existing between the upper part of the pharynx and the soft palate, of which the patient was ignorant. The free border of the soft palate and the palato-pharyngeus muscle on either side are carried backward and attached to the posterior wall of the pharynx, forming a diaphragm between the superior and middle divisions of the pharynx. In this dividing membrane there are two somewhat circular openings—one one-half inch, and the other one-eighth inch in diameter. These openings are in the median line. The uvula cannot be distinguished. The patient can give no reason for this marked departure from the normal construction, and was ignorant of any irregularity till I asked her to permit a demonstration of her throat to this Society. She supports a family of five by washing. She frequently has a cold in the head, but experiences no difficulty in clearing the nose. She has never had noises in the ears and hears well. The sense of smell and taste are unimpaired, and her voice, save an occasional hoarseness, has never changed. The voice might be described as muffled. Her sleep is undisturbed. At least two of her children have throats normal in construction. She has had typhoid fever, and believes she had diphtheria when a child. As I demonstrate the case, it will be observed that she is well developed generally and in good health. In the absence of any ulcerative process, I conclude the case to be one of congenital malformation. The case has two interesting points, viz: First, this malformation is uncommon; and, secondly, the absence of symptoms such as one would think should follow such abnormality.

DR. HUSELTON reported a case of

COMPOUND PUNCTURED FRACTURE OF THE SKULL, produced by the calk of a horse's shoe. John T., æt 38, a farmer, was brought into the Allegheny General Hospital on the evening of January 26th with a history of "fractured skull." He was conscious, talked rationally, pupils equal,

no paralysis, and a full, slow pulse. The history, as given by himself, is as follows: He was riding in a "buckboard," leading a spirited horse by means of an ordinary halter. The horse, becoming frightened at a passing railway train, jumped upon the "buckboard," knocking the patient to the ground. He tried to rise, still holding the strap, when the horse reared and came down, his hoof striking the patient on the head, rendering him unconscious. He did not regain consciousness for about one hour after the injury, when he walked into the hospital supported by a friend.

An examination revealed a depressed, punctured fracture of the skull, situated in the frontal bone, two inches above the right eye. The fracture was shaped like, and about the size of a large almond, and very much depressed. A sero-sanguinolent fluid, supposed to be subarachnoid, escaped from the wound, but we were unable to find an opening in the dura mater. This fluid flowed freely as long as the head was resting on the occiput, but on turning it to either side it ceased. I trephined, removing the button from the lower portion of the wound. A number of fragments, principally from the inner table, were removed and the depressed bone elevated into position. There was no hemorrhage from the interior. The wound was flushed with a solution of bichloride mercury (1:4000). A few strands of silk were placed in the opening and brought out at the lower portion of the wound for drainage. The edges were brought together by silk sutures, and the operation completed by an antiseptic dressing. On the morning of the 27th his temperature was 100.4°, but gradually and continually dropped to 98.4° on the 29th, and remained normal from this time on. The dressings were removed on the 30th, four days after the operation. The wound had closed by primary union, and without a drop of pus or discharge of any character. The stitches and silk for drainage were removed on this occasion, and the head was redressed, observing the same antiseptic precautions as at first. These dressings were removed on February 4th; and as every part of the original injury was healed, an ordinary nightcap bandage was applied and the patient was permitted to get up on the next day, February 5th.

The case progressed without an untoward symptom of any kind. The patient was anxious to go home on the tenth day after the operation, but was kept in the hospital as a precautionary measure until February 15, when he was discharged cured, and the opening in the skull was apparently being rapidly closed by a bony deposit. His treatment was practically nil. The diet was liquid for the first few days. A mercurial at the outset was all he had in the way of medication.

DR. BUCHANAN: I would like to say a few

words on the subject of trephining. I think that Dr. Huselton had very distinct indications for his operation, and it certainly was very successful. I think there are one or two points on the subject of trephining that may be dwelt upon. The principal one is that the indications for trephining have entirely changed in the last few years. Formerly, there was a very great difference made between simple and compound fractures. Compound fractures were recommended to be trephined that would not have been considered proper subjects for trephining had they been simple. The presence of a simple depressed fracture, if the depression is slight, it is impossible to make out. A case of depressed fracture occurred in my practice a week ago, in which it would have been impossible for any one to make out the depression by external examination. On the following evening, when symptoms of compression came on, I opened the scalp and found the depression, removed a button of bone, elevated it, removed a clot of blood from beneath the bone, and put on a dressing. The patient afterward had no elevation of temperature, commenced to improve immediately, and is now practically well. The second point that I would call attention to is that the secondary results of depressed fractures are very much better appreciated now than heretofore. The deficiencies in intellect and epilepsies justify more frequent resort to the trephine and elevator in simple fractures of the skull. A case may recover and pass outside of the surgeon's sight, but still be a bad result; six months, a year, or several years after, there may be a chronic inflammation of the membranes of the brain or some damage done to the brain by plastic effusion, which will result in epilepsy or other troubles. I would therefore think that Dr. Huselton, even if there had been no compound nature in this fracture, would have been perfectly justified in elevating it, and I would go even so far as to say that when a fracture of the skull is suspected, if there is even a suspicion of depression, an exploratory operation through the scalp should be undertaken, because if there is no depression, such an operation would not hurt the patient a particle, and if there is a depression, it is exceedingly important to know it and act accordingly.

DR. MUNN: In connection with Dr. Buchanan's remarks on trephining depressed fractures, I will take the opportunity to relate a case which I met in my practice a year ago in April. A man was thrown out of a wagon by a runaway horse, and on being picked up a depressed fracture was discovered on the upper posterior corner of the right parietal bone. He was taken to his home, and there the propriety of an operation was spoken of, but it was declined by the friends of the patient. He passed out of my hands, went under the care of a homeopathic physician, and eventually recovered after remaining unconscious

for seven days; he had hemorrhage from the nose and the ear. Now, after the lapse of eleven months, he presents a decidedly marked depression in the region of the injury, has double vision, slight paralysis of the right arm, slight paralysis of the right leg, has some aphasia, and a slight paralysis of the left side of the trunk. I think the case to-day presents every indication for operation, but the operation was not performed at the time it should have been. Since the injury, he has had two epileptic seizures, nothing of the kind ever having occurred to him before.

DR. HUSELTON: I endorse everything that has been said by Dr. Buchanan and Dr. Munn. I would also add, I think we are too apt to overlook the importance of a fracture of the skull; under modern antiseptic treatment, I think trephining a comparatively safe operation, and in every case I think that where there is reason to suspect a depressed fracture of the skull, the trephine is a proper precautionary measure to be resorted to.

DR. W. P. MUNN presented a specimen, obtained from a cadaver of unknown history, of

ENTIRE ABSENCE OF THE INNOMINATE ARTERY.

At its place of origin the two common carotids arise together, then the left subclavian is given off, and last arises the right subclavian, which passes toward the right, behind the three other vessels.

DR. BUCHANAN: I have a former patient present whom I wish to exhibit. His case I reported to the Society three or four months since. He is a man whose patella I wired. I have not before been able to present him to the Society; I wished to present him at that time, but as I explained, he got out of my reach. I met him on the street sometime ago, and found that he had a very good result, and I thought I would show him to the Society. He was away from his laboring work just eight weeks.

(Patient exhibited.) You will observe that there is no separation whatever to be discovered between the fragments, and the joint movements are perfect. The limb is, to all appearances, as good as its mate.

DR. MURDOCH: Dr. Buchanan is to be congratulated on the result of this case. So far as can be told by an examination of this man's leg, the union is perfect; there seems to be a bony union between the fragments. I say seems to be, because I do not believe it is so; I very much doubt if bony union ever takes place in a fracture of the patella owing to the fact that many specimens have been thought to be bony, but when examined after death and the bones subjected to a process of boiling, it has been found the union was only fibrous after all. But if it is fibrous, it is just as good as if it were bony and just as useful, because there is no separation of the frag-

ments, and by scarcely any other treatment could the two fragments be brought into such close apposition; but anybody who knows the difficulty of treating fracture of the patella knows how difficult it is to keep them in apposition, and that if they are not kept so, the patient is maimed for life. The only objection to this operation that can be raised is the danger of it, but under antiseptic precautions, where they are thoroughly carried out, it is probable that the danger will be but little; but it is a melancholy fact that, notwithstanding the perfection to which antiseptic dressings and surgery have been brought, this operation, even in the hands of the best surgeons, is frequently disastrous, that is the cutting down on the knee-joint, freshening the edges of the bony surface and wiring them together. When I was in New York a year ago last spring, Dr. Sands told me of two cases that he had known where the patient had suffered amputation and had eventually died, where this operation was attempted; and only about a month ago, Dr. Stimson, at a meeting of the Academy of Medicine, in New York, stated that, during the past summer he had known three cases where an operation had been done in New York, and the patients had in all three cases suffered amputation afterward, so that even in the hands of the best surgeons, and with the greatest care taken, it is a dangerous operation, and surgeons have been endeavoring to find one that is less dangerous, that will accomplish the desired result; whether they will succeed or not remains to be seen. About three or four weeks ago Dr. Stimson, after making the remarks I have stated, exhibited five cases where he had tied the patella together subcutaneously, and the procedure seemed to me so simple and so likely to be successful that I think it should be tried, and if it succeeds, it will be much simpler than this operation, and, I believe, safer. The operation is so simple, that I will just show it here on the blackboard, if I can. (Drawing made by the doctor on the blackboard, exhibiting the method of operating.) I tried this last Saturday on an old lady, 60 years of age. I am not able to do what Dr. Buchanan has done, bring my patient here, and perhaps I never shall be able to do so. The patient is perfectly comfortable, and so far as anybody can tell, after this short treatment, bids fair to have a good result. I do not bring this up to criticise Dr. Buchanan. I am very glad to have had an opportunity to see Dr. Buchanan's case, the first one, I believe, that has been operated on in our county.

DR. HUSELTON: I want to congratulate Dr. Buchanan on the successful issue of his case. I had the pleasure of being present when he operated, and am glad to say that I think the operation was very carefully and skilfully performed. At the same time, I do not believe the operation will ever become a popular one; I think that op-

ening so large a joint as the knee-joint is too hazardous, and attended with too much danger, particularly when we are having very good results by the old method. I have had several cases, at least three or four in my practice, the last one occurring about two years ago, treated by the old method, and the result every thing that could be desired. I did claim the union was bony; however, I think this is not the case, but if ligamentous or fibrous, it is almost impossible to detect the fact. I exhibited the case to at least one person here, and would be glad to present the case to the Society at some future time for their inspection.

DR. BUCHANAN: I am very glad Dr. Murdoch presented this new method of treatment. I considered that method shortly after I had done this operation. It was then first brought to my notice. It occurred to me that this certainly is a much safer operation than the open method, but it is open to two theoretical objections, whether they are real objections, time alone will tell. The first is that it will probably in a great many cases, if not the majority, be impossible to approximate the fragments exactly by this method. I should think that the anterior borders of the patella, by this method, would be tilted a little backward, and that would keep the surfaces from coming together. In wiring a bone, it is sometimes a difficult matter to get the surfaces exactly apposed, even when you have everything open before you and are able to handle the parts, and of course it is very much more difficult when you are doing it subcutaneously. And the second objection that I would suppose to exist in regard to this method is, that the torn fragments of the capsule of the joint float in between the fragments. I believe it has been proposed to pass a needle in and hook these out from between the fragments. At all events I should imagine from the case of this man, at least, that it would be very difficult to get these shreds from between the broken bones, and it is said by a number of good surgeons (Prof. Macewen was the first, I believe, to state it), that this is a chief cause of non-union, or rather of the failure of bony union in this fracture. In regard to Dr. Huselton's results, I think he is to be congratulated. I don't think that the result which he has mentioned is otherwise than exceptional in these cases by the non-operative methods of treatment.

AMERICAN CLIMATOLOGICAL ASSOCIATION.—The Sixth Annual Meeting of this Association will be held in the Boston Medical Library Association Hall, 17 Boylston Place, Boston, on June 24 and 25, under the presidency of Dr. Vincent Y. Bowditch, of Boston. The programme contains a large number of papers by eminent physicians.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

Dr. Worms on Diabetes—Prof. Ollier on the Advantages of the Resection of the Hip-joint in Cases of Suppurative Coxalgia—Dr. Larat on the Treatment of Intestinal Occlusion by Electricity—Dr. Gaucher, of Algiers, on Abortive Treatment for Whitlow—Some Hints on Prescribing Hydrochlorate of Cocaine.

Dr. Worms lately read a note at the Academy of Medicine in which he communicated the result of his long and patient researches on diabetes in a clinical and therapeutic point of view. According to the author diabetes is very often a malady of slow evolution and of long duration. He thinks that none of the existing theories on the pathogeny of diabetes is satisfactory. Moreover, many of the symptoms, such as polyuria, emaciation, thirst, dental caries, which are looked upon as essential symptoms, are often found wanting. In a clinical point of view, the toxic or accidental glycosurias being put aside, the distinction between chronic glycosuria and diabetes mellitus is not justified. As regards the treatment the principal object of the physician should be to maintain in the highest degree the vital energy and integrity of the digestive functions. This result is obtained by the application of the diet and regimen instituted by Bouchardat. Dr. Worms thinks, however, that the gluten bread may be suppressed, and that the patient be allowed to eat ordinary bread in small quantity. Saccharin, which has been proposed as a substitute for sugar for the use of diabetic subjects, appeared to Dr. Worms to cause disgust after a time and to act injuriously on the digestive functions, which it is of the highest importance to preserve intact. As regards drugs, it is the sulphate of quinine in doses of from 20 to 30 centigrams which gave the best results. He does not consider it as a specific, but as a powerful neurosthenic which fulfils one of the principal indications of treatment. In certain cases he employed arsenic and opium with good results. Antipyrin is of too recent introduction in the therapeutics of diabetes to give a decided opinion as to its merits. As for bromide of potassium, which has also been much vaunted, it gave unfavorable results. Dr. Worms founded his observations on 41 patients whom he had been able to follow for some time and some of them are already cured.

At the same meeting of the Academy, Professor Ollier, of Lyons, read a note on *The Advantages of the Resection of the Hip-joint in Cases of Suppurative Coxalgia*. He stated that since 1860 he practiced this operation about fifty times. It was the sub-periosteal method that he had employed. After the operation he endeavored to obtain ankylosis

of the joint. He considers that when the femur is ankylosed in a favorable position, with a slight flexion, the operated subjects may go through the hardest work and become indefatigable walkers. Once the ankylosis is established, there is no more fear of secondary displacements, nor the return of tuberculous or inflammatory foci. M. Ollier concluded his note by recommending that in the great majority of the cases of suppurative coxalgia ankylosis should be obtained. However, articular mobility may be preserved when early resection is practiced, that is to say as soon as an abscess around the articulation is suspected or established, because then the extent of the lesions of the soft parts being reduced to the minimum, a very complete reparation may be expected. Nevertheless, M. Ollier does not always approve of this manner of proceeding, as in many cases of suppurative coxalgia in childhood cures may be obtained by more simple operations than resection, such as antiseptic opening of foci, iodoform injections, drainage, etc.

In a very interesting note on *The Treatment of Intestinal Occlusion by Electricity*, Dr. Larat begins by observing how often the diagnosis of the cause of intestinal occlusion is difficult. Nearly always, one is in the presence of a tympanitic intestine, preventing all palpation. He points out also the complete uselessness of purgatives when the intestine is impermeable. In such cases, repeated purgations serve only to excite vomiting. When relief of the bowel is obtained by electrization it presents different forms; sometimes it is sudden, gaseous and stercoral, sometimes it takes place slowly, occupying several days. One sitting alone of electrization is often powerless to obtain it. On an average, four or five sittings are necessary to obtain the desired result. Of nineteen cases reported to the Academy of Medicine, the author cited six successes. In conclusion, he believes himself justified in deducing from these facts that intestinal galvanic electrization deserves to be employed in all cases of occlusion, as soon as the medical means have failed, and when the obstacle is evidently insurmountable by purgatives, on which one should not insist too much.

Dr. Gaucher, of Algiers, recommends the following abortive treatment for whitlow. He says it is sufficient to moisten slightly the painful part and a little around it with some water, and to pass over this surface a stick of nitrate of silver. A few hours after the skin becomes black, all pain disappears, and the inflammation is arrested. The blackened epidermis receives no dressing and in six days the black color disappears. The author was induced to try this remedy in a case of a fit of gout. The patient had his great toe swollen at its base, it was painful to the touch, a little red, and the seat of lancinating pains which hindered the rest of the patient. The painful articulation was moistened and rubbed over with a stick of

the nitrate of silver. The next day the joint had diminished in size and was covered over with a black skin. The pain completely disappeared a quarter of an hour after the painting, and the patient got up to follow his occupations.

The hydrochlorate of cocaine is so much in vogue that a writer in the *Formulaire Mensuel* thought it necessary to remind his readers that when this drug is prescribed associated with energetic bases or their salts, cocaine is precipitated. Thus, in a gargle containing borax or a mixture containing lime water, precipitates are produced not only with cocaine, but also with a large number of vegetable salts. The practitioner will therefore direct to be written on the label, "shake each time." Without this precaution the first doses of the medicament may be inefficacious, and the last, on the contrary, much more active. A. B.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

American Academy of Medicine—Dr. W. Gilman Thompson's Paper on the Therapeutic Value of Oxygen.

At the last meeting of the Academy of Medicine Dr. W. Gilman Thompson read a paper on *The Therapeutic Value of Oxygen*, and in connection with it gave a demonstration of the effects of high pressures of oxygen upon animals. The first question he took up was whether an increased pressure really caused more oxygen to be absorbed by the system. Under any circumstances, he said, the hæmoglobin of the blood could take up but a very limited amount of oxygen, and the same was true of the blood-plasma. He pointed out the incorrectness of the old idea that animals could not live in pure oxygen, the system being burned up, as it were, by the increased tissue changes excited by it, and referred to the experiments of Dr. Andrew H. Smith in 1869 and 1870 in proof of this. His conclusion was that very little additional oxygen could be made to enter the system by any amount of pressure that would not be injurious.

He then exhibited the apparatus which he had constructed for the purpose of exposing animals to high pressures of oxygen. It consisted of a strong iron cylindrical chamber, with glass-covered openings at each end, in which the animal to be experimented upon was placed, and to this chamber oxygen was supplied at any degree of pressure desired from a cylinder containing the gas at a pressure of 225 lbs. to the square inch. Two animals, a monkey and a pigeon, which had been subjected for one hour to a pressure of 30 lbs. to the square inch of oxygen, in addition to

the ordinary pressure of the atmosphere, 15 lbs., were taken from the chamber in an apparently perfectly normal condition.

Dr. Thompson next proceeded to report with more or less detail a series of experiments he had made upon healthy animals; these being dogs, cats, pigs, monkeys, guinea-pigs, pigeons and alligators. It was found that all the animals could exist comfortably in the oxygen until a pressure exceeding thin atmospheres was reached. The higher the order of the animal experimented upon the more quickly it became affected. As a rule, a decided fall of temperature, often amounting to from 4° to 6° F., was observed; and only in cold-blooded animals was there any rise of temperature. Similar results had been reported by Valenzuela in a paper read before the Royal Academy of Madrid. This marked decrease he did not believe was to be attributed at all to the effect of the oxygen, but to the profound disturbances caused in the system by the high pressure employed. If, as was claimed by the older writers, a greatly increased tissue metamorphosis was caused by oxygen, this would unquestionably be accompanied by an increase, and not a diminution, of the body temperature. In such of the animals as died or were killed after being subjected to high pressure of oxygen he found pulmonary engorgement and dilatation of the right heart. The convulsions which usually resulted when the pressure was carried to a high point were, as a rule, quickly controlled by blowing off 5 lbs. of pressure. The cause of these convulsions, he said, was as yet undecided, but he was inclined to attribute it to the effect of the unequal diffusion of gases under different degrees of pressure. He also tried the experiment of subjecting animals on alternate days to high pressure of oxygen and to compressed air.

A second series of experiments was made upon animals in which abnormal respiration had been induced. Dyspnoea, he said, might be classified as being due to

1. Abnormal conditions of the air.
2. Abnormal conditions of the blood.
3. Obstructed circulation.
4. Diminished surface for aeration.
5. Neurotic influences.

In a cat in which dyspnoea was produced by cutting both vagi instant relief was afforded by exposing the animal to oxygen; while, on the other hand, the dyspnoea was increased by compressed air. In the second experiment a canula was introduced into the pleura of a dog. In the third pulmonary congestion was caused in a cat by injecting a solution of nitrate of silver into the lung tissue, and the dyspnoea resulting therefrom was greatly relieved by oxygen. In other experiments the lung was compressed by injecting considerable quantities of water into the pleura, and in still others the animals were bled to

the extent of many ounces. The results of these experiments, he said, went to show that oxygen does aid in a moderate degree certain types of dyspnoea.

In considering the therapeutic value of this agent Dr. Thompson stated that it had been employed, first, as curative in certain general diseases, more particularly of the blood and circulation; and, second, as a palliative in dyspnoea due to various causes. Of late its use had increased to such an extent that two or three hundred thousand gallons of the gas were now annually consumed in New York City alone. Among the other troubles, beside dyspnoea, in which it was claimed that it had proved of benefit, were anæmia, chlorosis, croup, chronic gastric catarrh, migraine, cholera, and opium poisoning. In anæmia, chlorosis, etc., he said he could see but little advantage over good fresh air in giving inhalations of diluted oxygen two or three times a day, as was the usual practice in such affections. It did not seem rational to him to expect that sufficient oxygen could enter the system under these circumstances to produce anything but a temporary effect at the best. In cases of blood poisoning, again, he had failed to see any benefit derived from oxygen. In certain subjective cases of dyspnoea it no doubt gave relief, but in a case of poisoning by illuminating gas which he had seen at the Presbyterian Hospital its administration was kept up for nearly three days without producing any effect either on the rate of respiration or on the cyanosis present. In cardiac diseases his experience with it had not been encouraging, and he referred particularly to a case of malignant endocarditis in which it proved of no avail in relieving the dyspnoea. In certain cases of asthma and of uræmic dyspnoea, however, it gave decided relief, and in such he believed it was an invaluable therapeutic agent; though not, of course, curative.

In the discussion on the paper Dr. J. West Roosevelt spoke of the relation of the amount of oxygen inhaled to that absorbed, and said that while the amount which entered the plasma or the hæmoglobin of the blood was comparatively small, he believed it was sufficient to cause appreciable results in many instances. As to the therapeutic value of oxygen, in the neurotic form of dyspnoea we had a condition in which the mere act of inhalation and the engaging of the attention of the patient would often have a beneficial effect. In anæmia he had met with fairly good results with oxygen, though the patients improved less rapidly than under the use of iron. If in any case the hæmoglobin was not saturated an improvement showed that more oxygen was carried than under ordinary circumstances. On the whole, oxygen had proved of considerable value in his experience, and in cases of diminished surface for aeration he had seen cyanosis decidedly improved under its use.

Dr. George L. Peabody was the most skeptical of any of the speakers in regard to the efficacy of oxygen. So many circumstances were involved, he said, in estimating the value of an agent like this, that it was difficult to arrive at positive conclusions respecting it. Thus, when it was not the only therapeutic agent employed it was impossible to say just how much benefit was derived from it; and this difficulty was further increased in diseases which naturally tend to recovery. From all that he could make out from reading and clinical observation there seemed to him good reason to doubt the alleged efficiency of oxygen, and personally he believed that, as a rule, quite as much relief could be obtained from ordinary fresh air. It might be tried, however, in maladies attended with dyspnoea in which the blood is unchanged, such as pneumonia, emphysema, croup, and asphyxia from noxious gases; although, as Dr. Thompson had stated, in poisoning by illuminating gas it had failed to give relief. There was no justification, he thought, for the extensive use of oxygen in such diseases as anæmia, chlorosis, lithæmia, etc. Its absorption depended, probably, on the amount of hæmoglobin in the blood at the time the oxygen was administered; but in any event the amount absorbed was unquestionably very small. Although the pulmonary gymnastics of the inhalations might have a beneficial effect in certain instances, there were other remedies which could be employed with much greater advantage. That the use of oxygen hastened recovery in such cases he could not believe, and the recognized facts of physiology were certainly at variance with any such conclusion.

Dr. Beverley Robinson, on the other hand, was a most enthusiastic believer in the practical utility of the remedy. He said that he differed entirely from Dr. Peabody, and that his clinical experience afforded the most conclusive proof of the immediate and marked relief resulting in many conditions from the use of pure oxygen. The purity of the gas he considered a point of very great importance, and he said that one make of gas which he had formerly employed gave such poor results that he abandoned its use. There was a gas now manufactured in New York which was said to contain a certain proportion of nitrogen monoxide, from which he had obtained very satisfactory results, and it was worthy of note that Brown-Séquard had expressed his opinion that nitrogen was of great service in preventing the irritating and intensely exciting effects of oxygen alone.

In anæmia he had found that those cases were most improved in which oxygen was used in connection with iron. In albuminuria connected with atrophic nephritis he had found the general nutrition of the patient improved under the use of oxygen; the digestive and assimilative powers

being greatly assisted by it. Even in plithisis, while it did not have a curative effect, it might prove beneficial. In the first place, the inhalations caused the patient to thoroughly expand his lungs; secondly, oxygen was itself an antiseptic; and thirdly, it had the effect of improving the general nutrition. As had been well said, oxygen was really prescribed every time that a patient was sent to the mountains, to Southern California, to the plains, or on a sea voyage. That there were many cases in which it was impossible to send patients away, and he believed it was possible to stimulate the hæmoglobin in the blood, and thus to enable the patient who remained at home to carry more oxygen. In the use of oxygen he did not think we should be guided so much by experimental researches as by practical clinical experiences. Leaving out of consideration those cases in which he believed it had a decidedly curative effect, there were certainly many others in which the last hours of patients could be rendered much more comfortable by resorting to the use of oxygen.

Dr. Walter Mendelson took much the same view of the subject as Dr. Peabody. While it was true that in anemia he had some quite marked results under the use of oxygen, he did not believe that the benefit noticed was in reality due to this agent. In this connection he cited the case of an old man who inhaled ten gallons of oxygen a day, and became greatly improved. This improvement, however, he was convinced was due to the systematic expansion of the lungs and to the moral effect of the knowledge that something out of the common was being done for him. In cases of dyspnoea from various causes he had seen more or less relief afforded by oxygen, yet all the patients died. Still, as Dr. Robinson had remarked, it was possible that their last moments were rendered more comfortable by the inhalations.

Dr. M. P. Jacobi said that the amount of oxygen which the hæmoglobin carries varies under different circumstances. In asphyxia of various kinds the physiological capacity of the blood remained the same, and therefore the indication was to administer oxygen. The correctness of this had also been shown by clinical experience. In anemia, and especially chloro-anæmia, on the other hand, the hæmoglobin was diminished. The condition was precisely the reverse from that met with in asphyxia, and we could not cause a much greater amount of oxygen to be absorbed.

Dr. Andrew H. Smith said he was gratified to find that the work which he did twenty years ago for the most part still remained good. At that time he had demonstrated that animals could live perfectly well for four days in pure oxygen; care being taken to remove the effete products of respiration. It was his opinion that under ordinary circumstances the blood is not fully saturated with oxygen, and that the point of saturation

corresponds with the physical demand. This allowed a pretty wide margin, and it was perhaps within this margin that a considerable amount of oxygen could be absorbed by the blood. Thus the demand for oxygen was much greater in athletes engaged in violent exercise than in individuals making but little physical exertion. Therapeutically, he had seen the greatest benefit derived from oxygen in catarrhal conditions of the air-passages, such as was met with in suffocative bronchitis. In such cases he was at a loss how to explain the relief afforded by the oxygen, unless it was a fact that under these conditions the blood did not take up as much oxygen as the system required. Dr. Smith also said he had used oxygen with satisfactory results in opium poisoning.

In closing the discussion Dr. Thompson said that convulsions were produced in the animals experimented on by the rapid increase of the pressure, and that such convulsions were quickly relieved by the rapid withdrawal of a portion of the pressure. He could not agree with Dr. Smith in his opinion regarding the saturation of the blood with oxygen, since he thought there could be no question that even under ordinary conditions the hæmoglobin was practically saturated with oxygen. He also believed that Dr. Robinson was unquestionably mistaken in attributing any irritating effects to oxygen. This was entirely disproved by his own and by Dr. Smith's experiments with animals; and it had been repeatedly demonstrated by others that pure oxygen has no irritating effects whatever. It produced no burning up of the tissues, as had been formerly supposed, and he could see no advantage over ordinary air in the nitrogen monoxide referred to.

During the evening a cat and a dog were successively subjected to progressively increasing pressures of oxygen in the pneumatic chamber. When the pressure reached 80 pounds to the square inch the cat was seized with a convulsion, and the dog had a convulsion when the pressure reached a little above 45 pounds. Both animals recovered after they were restored to the air.

P. B. P.

MISCELLANY.

THE 75,000 EDITION.—*The American Lancet* says: "On May 25th, THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION issued an edition of 75,000 copies, thus reaching nearly all the physicians of the United States. It is hoped in this manner to interest more physicians in THE JOURNAL, and the American Medical Association. Especially is it hoped that it may attract a large number to the coming annual meeting at Newport. A pretty full preliminary notice of this meeting is given so that a fair idea may be had respecting it. Incidentally, it may be said that the edition fully pays for itself, without any reference to the regular subscribers, or the members of the Associ-

ation, so that any advantage that may accrue to either will be a clear gain."

The New York Medical Journal says: "THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—An edition of 75,000 was recently printed, enough to enable our excellent contemporary to bring itself to the notice of almost every physician in the country."

The Weekly Medical Review says: "With commendable zeal the editors of THE JOURNAL have issued 75,000 extra copies to the medical profession. This copy contains a lengthy list of the titles of papers to be read at the coming meeting of the Association. THE JOURNAL also contains a concise description of 'Newport-by-the-Sea,' and the neighboring places of interest, illustrated by near a dozen elegant plates. These extra copies which have been mailed to the physicians throughout the country are well calculated to arouse a more universal interest in the coming meeting, which will be held June 25th to 28th. The prospects are that the meeting will be larger than any ever yet held by the Association. The extra number of THE JOURNAL also contains a number of valuable contributions to medical literature and a brief review of the history of the Association."

Dr. R. J. Dunglison, of Philadelphia, writes us: "I think the Extra Edition a great success."

Dr. A. L. Hummel, of Philadelphia, writes us: "Your Special is a beauty. Please send me two more copies."

The Medical Times and Register says: "THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION comes out on May 25, with an edition of 75,000 copies. THE JOURNAL gives evidence of careful and competent editorial supervision; and if it is now under a temporary management, the Association can scarcely do better than make the present arrangements permanent."

The College and Clinical Record says: "An extra edition of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 75,000 copies, was issued on May 25th. It is a very attractive number, and the enterprise and judgment displayed in both the publication and editorial departments reflects much credit upon those who carried the project to a successful execution. Certainly the great bulk of the medical profession will now be thoroughly informed as to the objects of the American Medical Association, the publication and merits of THE JOURNAL, and the practicability and desirability of medical men becoming members of the Association, which they can now do with facility, either by attendance as delegates or by direct application at any time, merely forwarding a certificate of good standing in their State or local Society, and five dollars, annual dues, to the Treasurer of the Association, Dr. R. J. Dunglison, Philadelphia. They receive THE JOURNAL, for the year free."

The American Practitioner and News says: "THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION recently added 75,000 extra to its regular edition. We sincerely hope that the enterprise of its management may be rewarded by the return of 75,000 *bona fide* subscribers."

LETTERS RECEIVED.

Dr. Seneca D. Powell, New York; Dr. R. J. Dunglison, Philadelphia; Dr. Fred Treon, Crow Creek, Dak.; Dr. J. B. Murdoch, Pittsburgh; Trommer Extract of Malt Co., Fremont, O.; Dr. John M. Batten, Pittsburgh; Health Restorative Co., New York; Dr. H. Longstreet Taylor, Cincinnati; Dr. Austin Flint, New York; Dr. S. E. Chaillé, New Orleans; Dr. E. S. McKee, Cincinnati, O.; Dr. W. H. Daly, Pittsburgh; Dr. David Barron, Lexington, Ky.; Dr. N. P. Daudridge, Cincinnati; Dr. G. C. Savage, Nashville, Tenn.; Dr. E. Pynchon, Chicago; Dr. P. L. Brick, Le Mars, Ia.; B. B. Mitchell, Block Island, R. I.; Wells & Richardson Co., Burlington, Vt.; College of Physicians and Surgeons, Boston; Dr. E. B. Montgomery, Philadelphia; Thos. W. Leeming & Co., New York; Dr. G. W. Powell, Moriah, N. Y.; W. P. Cleary,

New York; Dr. T. J. Birch, Port Carlson, Pa.; Dr. John Specht, West Salem, Wis.; Dr. O. C. McDannell, Lowell, Mich.; Ohio Buggy Co., Columbus, O.; Dr. A. E. Owens, Dover, Ill.; Dr. Wm. H. Morrison, Holmesburg, Pa.; Dr. W. N. Miller, Pittsburgh; Dr. J. H. Goss, Fort Lamar, Ga.; Dr. W. A. Cooper, Dyersburg, Tenn.; Dr. A. L. Hummel, Philadelphia; J. H. Bates, New York; Dr. L. Duncan Bulkley, New York; Dr. H. v. Sweringen, Fort Wayne, Ind.; Dr. J. H. Ruggles, Creston, Ia.; J. P. Ole-son, Dr. L. A. Kengla, San Francisco, Cal.; Dr. C. F. McGahan, Chattanooga, Tenn.; Dr. R. D. Clark, Akron, Ia.; Dr. R. H. Henry, Frankfort Station, Ill.; Dr. Thos. Taylor, Washington; Physicians' and Dentists' Insurance Association, Chicago; Dr. W. A. Jordan, Clinton, Ky.; Dr. H. C. Mooney, Laketon, Ind.; Nichols & Shepherd, Three Rivers, Mich.; Dr. H. R. Storer, Newport, R. I.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from June 1, 1889, to June 7, 1889.

Capt. Geo. F. Wilson, Asst. Surgeon U. S. Army, resignation was accepted by the President, and took effect May 31, 1889.

By direction of the acting Secretary of War, Capt. James C. Merrill, Asst. Surgeon, is detailed as a member of the board of medical officers appointed by par. 9, S. O. 108, May 10, 1889, from this office, to meet at the U. S. Military Academy, West Point, N. Y., on June 1, 1889, or as soon thereafter as necessary, to examine candidates for admission to the Academy, etc., vice Capt. Fred. C. Ainsworth, Asst. Surgeon, hereby relieved as a member of the board. Par. 4, S. O. 127, A. G. O., June 3, 1889.

Capt. W. O. Owen, Jr., Asst. Surgeon, leave of absence for seven days granted in Order 18, c. s., Ft. Gibson, I. T., is extended twenty-three days. Par. 2, S. O. 67, Hdqrs. Dept. of the Missouri, Ft. Leavenworth, Kan., May 29, 1889.

First Lieut. Jefferson R. Keen, Asst. Surgeon, leave of absence granted in S. O. 48, Dept. of the Platte, May 15, 1889, is extended fifteen days. Par. 3, S. O. 129, A. G. O., June 5, 1889.

APPOINTMENTS.

Philip G. Wales, appointed Asst. Surgeon, with rank of First Lieut., from June 7, 1889.

Theodore F. De Witt, appointed Asst. Surgeon, with rank of First Lieut., from June 7, 1889.

Benjamin L. Ten Eyck, appointed Asst. Surgeon, with rank of First Lieut., from June 7, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending June 8, 1889.

Asst. Surgeon J. J. Page (retired), granted one year's leave of absence to leave the United States.

Thos. B. Bailey, appointed an Asst. Surgeon in the Navy May 23, 1889.

George H. Barber, appointed an Asst. Surgeon in the Navy May 23, 1889.

George Rothganger, appointed an Asst. Surgeon in the Navy May 24, 1889.

George Tucker Smith, appointed an Asst. Surgeon in the Navy June 3, 1889.

Asst. Surgeon T. B. Bailey, ordered to the receiving ship "Dale," at Washington, D. C.

Asst. Surgeon Geo. H. Barber, ordered to the receiving ship "Vermont," at New York.

Asst. Surgeon F. N. Ogden, ordered to examination preliminary to promotion.

Asst. Surgeon P. H. Bryant, detached from Naval Hospital, Chelsea, and granted a month's leave of absence.

Medical Director H. O. Mayo (retired), granted one year's leave of absence, with permission to leave the United States.

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CHICAGO, JUNE 22, 1889.

No. 25.

ORIGINAL ARTICLES.

PATHOLOGICAL SPECIMENS, WITH ACCOMPANYING HISTORIES.

*Presented before the Medical Society of the District of Columbia,
May 21, 1889.*

BY JOSEPH TABER JOHNSON, M.D.,
OF WASHINGTON, D. C.

[Reported for THE JOURNAL.]

Case 1.—Ovaries and tubes from a white lady, æt. 34; no children, though she had been married fourteen years. History of pelvic pain and chronic invalidism for nearly twenty years. Had undergone much treatment by many physicians in different cities without benefit, and was now nearly worn out. Upon examination, found enlarged ovary on one side and an adherent mass on the other, such as usually passes for pelvic cellulitis. Dr. J. recommended immediate removal of diseased organs. Patient was delighted at a definite proposition to do something, and she entered his private hospital for that purpose. Appendages upon both sides removed; ovary upon right side was as large as his fist, and contained blood and pus. Appendages upon left were densely matted together and adherent to anything they touched. Recovery has been perfect. It is now a year since the operation, and Mrs. S. is in perfect health.

Case 2.—Mrs. D., æt. 32; white, wife of a clergyman; mother of seven children; had been an invalid for ten years; confined to her room for last three years, and to her bed for past year; sent to him by Dr. Stuart Harrison, of Anncostia. One ovary very much enlarged; condition very similar to Case No. 1. Same operation and same result; done in his private hospital. Returned six months later with pains in the rectum and pelvis; pelvic pains relieved by galvanic current. Dr. P. S. Wales, late Surgeon-General U. S. Navy, saw her with him, and discovered a fissure of the anus, which he completely cured by thoroughly dilating the sphincter under ether.

Case 3.—Enlarged tubes with ovaries, from a case of pyo-salpinx, in a single colored girl, æt. 28 years. Had been a great sufferer for some years; referred to Dr. J. by Dr. Mary Parsons. Operated in private room in Providence Hospital.

Rapid recovery, and continues well; gained thirty-five pounds in last six months.

Case 4.—Ovaries and tubes from Mrs. W., a widow, aged 36, who was suffering from a bleeding uterine myoma; had treated her three months with ergot and electricity without effect, except to tone up her system somewhat; was employed by the Government, but lost her place on account of continued absence; was unable to work, and had to be supported by friends. Operated last January. Patient is now well; has lost no blood since the removal of appendages in Providence Hospital.

Case 5.—Ovarian cyst nineteen pounds from Miss R., aged 23. White; single; sent by Dr. Chapman, of Glymont. Operated in his private hospital February 14, 1889, when her temperature was 103°, pulse 130°, and respiration 40°. Complete and immediate relief; no bad symptoms during recovery, except from slight stitch hole abscesses; is now at home, and perfectly well.

Case 6.—Blood-clots, ovary and tube from Mrs. B., who was operated on for symptoms resembling extra-uterine pregnancy. Saw her first with Dr. Fry; patient suffered with constant pain and bloody discharge; had a mass in left iliac fossa, resembling a fibroid; pain and tenderness increasing, and evidence of pus developing. Dr. Fry had her removed to Dr. Johnson's Private Hospital, where she was operated on four months ago. A large abscess of left ovary was opened; a pint of very offensive pus was evacuated; cavity washed out and drained; drainage tube remained in two weeks, and gave exit to much offensive fluid. More than a handful of large, blackish blood-clots came out of the abdomen, and from their size and age were supposed by Dr. Johnson to be portions of placenta; but Dr. Gray, of the U. S. Medical Museum, reports them to be old coagula. Patient had been in bed eleven weeks when operated on. She now reports herself as perfectly well. The other ovary was not disturbed.

Case 7.—Two enlarged ovaries and tubes from Miss G.; white; æt. 23; single; has been a sufferer for ten years; was sent to him by Dr. Bayne, who had treated her for several years for menstrual epilepsy and painful periods. Had been under Dr. Johnson's care four years. He had fre-

quently urged her to have her appendages removed. They were known to be enlarged—in a state of chronic inflammation and adherent. After one of her attacks of convulsions, her bladder lost its power to contract, and for three years and five months her water was passed only through a catheter, which she finally used for herself. Under the frequent and prolonged use of the faradic current, she regained the power to empty her own bladder. Last fall she had a pelvic peritonitis, which kept her in bed over a month. The left ovary began to enlarge very rapidly, and kept her house-bound. She entered Dr. Johnson's Private Hospital in January, and was operated on. One ovary was as large as a child's head, and contained over a pint of offensive pus. The other was as large as a lemon. The patient made a slow recovery, and left the hospital in six weeks. Being septicæmic when operated on, she has done fairly well. She is now going about, and has gained at least twenty-five pounds, and expresses herself as being a new creature.

Case 8.—Large ovarian cyst, from a white married lady, æt. 61 years. Tumor had been growing less than a year. Patient had been confined to her room for a month with typhoid symptoms. Pulse about 100°, but temperature ranging from 100° to 103° every evening; tongue very brown and dry. Was removed from a boarding-house to Dr. Johnson's Private Hospital, and operated three days later. Third day after removal of tumor, symptoms all disappeared. She made an uneventful recovery, and left the hospital in five weeks. She is now perfectly well. Tumor weighed 26 pounds; was sent to Dr. J. by Dr. Gardner.

Case 9.—Supra-vaginal hysterectomy. Uterus, tubes and ovaries removed, with a fibroid tumor weighing four pounds. Saw the patient with Dr. Brownell about three weeks ago, when she was suffering acutely with symptoms of intestinal obstruction. Dr. B. had attended her for a week, and had been unable to cause a movement of her bowels. Had been compelled to administer many hypodermic injections of morphia to quiet her agony. Her abdomen was enormously distended with gas; her temperature was about normal, but her pulse had been 120° for three days. Dr. Johnson had seen the patient over a year before in consultation with several physicians, in reference to the removal of a fibroid tumor of the uterus. The patient was anxious for an operation, but three out of five doctors were opposed to its removal, and a course of electrical treatment was recommended. This was continued for about four months without any marked benefit under the skilful management of Dr. McArdle. Patient had suffered in the meantime from attacks of indigestion. Upon a vaginal examination the fibroid was now found to be entirely filling the pelvis, and

Drs. Johnson and Brownell thought the tumor was the cause of the intestinal obstruction, and that its immediate removal offered the only hope of her relief. Though there was great distention of the abdomen, constant vomiting, and a pulse of 120, yet with a temperature at about 99, it was thought that there was little or no peritonitis. The patient and her family were ready and anxious for an operation. It was decided on at noon, and done at 4 P.M. The only difficulties experienced in the operation were in keeping the distended intestines from escaping, and in getting the tumor out of the pelvis. It was finally drawn up with Tait's corkscrew pulling it, while two fingers in the vagina pushed it above the brim of the pelvis. There were no adhesions except to the sigmoid flexure, which was completely flattened out. Keath's clamp was applied at about the internal os, and the tumor cut away; pedicle treated externally, and the wound closed in the usual way. It was thought that the removal of the tumor would remove the obstruction, and no extensive search was made for any other trouble. Patient was very much more comfortable after the operation, and frequently expressed herself as being free from pain. Operation was done on Sunday. The difficulty was not relieved, and she died on Thursday of intestinal obstruction. The autopsy showed everything very satisfactory about the operation, but revealed a tight constriction of the colon at the point where the transverse merges into the descending colon, in which was a perforation large enough to admit the big end of a lead-pencil. Considerable intestinal contents had escaped. About six inches of the gut was removed, and with the tumor was presented to the Army Medical Museum. Upon examination, Dr. Billings reports the obstruction to be "cancer of the intestine." We have the sad consolation, therefore, of knowing that her life could not have been saved by any operation short of a resection of the intestine, and the malignant deposit was not discovered until the autopsy.

Case 10.—*Supra vaginal hysterectomy.* Soft, rapidly-growing myoma of the uterus, weighing 20 pounds, removed from Miss E.; white; æt. 31. First noticed an enlargement four years ago; had only been troublesome for about a year; was anxious to have it out. Operated in Providence Hospital. Many and very vascular adhesions about upper part of tumor, and to the omentum. Some of the vessels were as large as index finger. Koeberly's *serre neud* applied to pedicle, and treated as recommended by Bantock. Later: patient has made a good recovery; has a normal pulse and temperature; is now in her twenty-fourth day.

Case 11.—Tubes and ovaries from Miss B., æt. 24; white; a seamstress, who was prostrated on account of loss of blood from a bleeding uterine myoma the size of a large cocoanut. Had been in the Homeopathic Hospital off and on for about

three months; was entirely supported by kind friends. Operation had been a complete success. She has written him this week that she feels better and stronger and happier than at any time for a year past.

Case 12.—Cancer of the ovary, large as a child's head. Was operated on in Dr. Johnson's private hospital. Fluid collection in abdominal cavity, mistaken for a cyst. Upon disturbing the mass, it began to bleed, and the only way to arrest hæmorrhage was to ligate and remove it. Cavity irrigated with hot water, and drainage tube put in. Recovered from the operation, and went home in five weeks, probably to die soon from an extension of the cancerous disease.

Case 13.—Large ovary and part of tube removed from Mrs. S. two months ago; had been confined to bed two months previous to operation on account of agonizing attacks of pain. She gave the history of a miscarriage in the sixth week, and much of her sufferings and frequent bloody discharges from the uterus were attributed to her own bad management. It was supposed that the fœtus had escaped, and that portions of sedundines still remained. Upon examination, the uterus seemed to be enlarged, retroverted, and exquisitely tender. So much pain was given by pressure that several of the physicians who had attended her were unable to make a satisfactory examination. I saw her with Dr. J. R. Bromwell about ten weeks ago, and after learning the history and examining the patient as well as we could, were divided in opinion as to whether we had an enlarged uterus or an extra-uterine pregnancy to deal with. Her terrible attacks of pain and the bloody discharges from the uterus caused us to think the latter condition might be present. It was decided finally to etherize her—dilate the uterus and remove anything abnormal which we might find in the cavity. This was done a week later, and the uterus was found to be only slightly enlarged and entirely empty. Upon the left side, however, we found a mass the size of one's fist, which had been mistaken for the enlarged and retroverted fundus uteri. Its very great tenderness had prevented manipulation, and it was not until she was etherized that we could determine that the mass was not the uterus. Just exactly what it was no one could yet say, but it was believed to be an enlarged ovary with an enlarged tube on its upper surface. It might be extra-uterine pregnancy. While our diagnosis was not certain, our opinion was that this enlargement was the cause of all her trouble, and that it ought to come out. A week later the abdomen was opened and Dr. J. removed the left ovary, which was larger than a lemon. It was very black and very soft. In enucleating the ovary from its bed of attachments, half a pint of black blood-clots welled up into his hand, and were guided out of the cavity. The abdomen was thoroughly irrigated, a

drainage-tube put in, and the incision closed. The patient has made a good recovery. Am inclined now to think it was extra-uterine pregnancy, though Dr. Lamb says it is only blood-clots. Several of Mrs. S.'s family had died of cancer, and the fear of malignancy made the patient and her family more ready for an early operation. Mrs. S. vomited constantly for six days after the operation, and was only nourished through the rectum. This caused no pain and no rise in pulse or temperature. She has a good appetite and digestion. She has gone to Atlantic City for the summer.

ON THE DIAGNOSIS OF PREGNANCY IN THE EARLY MONTHS.

*Read before the Medical Society of the District of Columbia,
January 30, 1889.*

BY LLEWELLYN ELIOT, M.D.,
OF WASHINGTON, D. C.

In speaking of the diagnosis of pregnancy in the earlier months, I desire to state that I refer to the time previous to the appearance of the positive signs, or, in other words, previous to the fourth month. The subject is one of very great importance, both to the patient and to the medical man, for upon his decision will rest, in many cases, the domestic happiness of families, especially when considered with reference to the younger female members. An error in diagnosis can never be remedied, for it matters not whether we pronounce for or against pregnancy and the final outcome of the case be different from our prediction, the error will live long after the case has been forgotten by the physician. It is this possibility of injuring our reputation that makes the subject of so much greater importance and demands that medical men should be conversant with all the signs of pregnancy, presumptive, probable, and positive. When a married woman desires to know whether or not she is pregnant, she will freely confide her symptoms to her physician, knowing that this is the only way for him to form a positive opinion, even allowing the vaginal examination, but how different is it, as we all know, when a young woman has fallen from virtue, becomes pregnant and seeks treatment for a suppression of the menses and a nausea and sick stomach in the morning. In such a case there is frequently the greatest difficulty in forming a diagnosis, for she will deny all symptoms, she will admit nothing, and assume the rôle of injured innocence when closely interrogated as to her habits, protesting all the while that the suppression is but the result of exposure to the cold and wet; that she never was regular; that her appetite and digestion never were good; that she has backache, which is always a premonitory symptom with her of the approach of the menstrual period. Now what excuse could we

have for proposing an examination of the breasts, an inspection of the vagina for its discoloration, an examination of the cervix, an application of the thermometer, or an examination for Hegar's shortening of the neck, in a case of this kind? Our suspicions might make us anxious to apply any or all of these tests, but the patient would refuse to see the necessity of it and seek advice from some one who would not ask "impertinent questions." In a case like this the pulse rate is, in my opinion, the most reliable sign, for its application requires neither exposure nor vaginal examination, it is simple, and is a sign not generally known to women, and will guide us in our further disposition of the case.

Let us see what are the signs of pregnancy in the earlier months, previous to the positive signs of this condition, that is to say, previous to the end of the fourth month.

The first sign of pregnancy is the suppression of the catamenia, then follows a bilious attack, a disordered state of the stomach, with nausea and vomiting, vesical tenesmus and irritability, kyesteine in the urine, salivation, changes in the mammae, flattening of the abdomen, softening of the cervix uteri, depraved appetite with longings, violet discoloration of the mucous membrane of the vagina, and descent of the uterus.

We must remember that the probable and presumptive signs of pregnancy may or may not be the result of gestation; that they may be the effects of various morbid conditions of the uterus or other organs of the system, with which pregnancy has no connection, and that the positive signs are evidences of undoubted value.

In regard to the suppression of the menstrual discharge, suppression may result from other causes; newly-married women sometimes skip two or three months and then become regular, again it may not be suppressed at any time during the gestation. I have seen it occur three successive months after impregnation. The vomiting and nausea may follow from other causes. Depraved appetite and longings for various articles of diet are reliable signs. I have known cases in which enormous quantities of starch have been consumed by the patient. The breasts begin to change about the second month, the nipple becomes more sensitive, projects, swells, and assumes a darker color; the areola is completed about the fourth month.

Neuralgias, hysteria, syncope, a sensation of increased bodily heat, dizziness, change of disposition, headache, occasional rigors, pigmentation and swelling of the face, together with various nervous derangements, very frequently occur.

Kyesteine has been found as early as the fifteenth day, and frequently at the second month, but its presence is most characteristic from the third to the sixth months, and diminishes from the seventh month.

Chloro-anemia may result from the disordered

gastric function and the altered condition of the blood, to improve after the fourth month. At from three to three and a half months, the abdomen begins to regularly and permanently enlarge. The vaginal mucous membrane becomes discolored, assuming a blue or violet color, as this may be found in all cases in which there is a predisposition to a vascular condition of the genito-urinary apparatus it loses its importance as a diagnostic sign. The uterus retains its normal position during the first three months, but the fundus rises as the organ enlarges, while the neck and inferior part subside more towards the floor of the pelvis. This I take to be the principle of Hegar's shortening of the neck of the uterus. At the fourth month the uterus may be felt three or four fingers' breadth above the pubis. The lips of the os uteri begin to soften towards the end of the first month; at the fifth month the cervix diminishes, to be gradually obliterated at the end of term.

M. Larcher, in 1828, and again in 1857, called attention to the hypertrophy of the heart, and M. Blot has confirmed his observations. This hypertrophy, like that of the uterus, passes away after

TABLE OF CASES.

No.	Period Missed	Date of Examination.	Pulse.			Diagnosis.	Remarks.
			Standing	Sitting	Lying		
1	August 2, 1884	August 27, 1884	72	70-74	66-70	Pregnant.	Delivered
2	May 15, 1884	May 26, 1884	64	64	64	"	"
3	July 17, 1885	August 17, 1885	74	86-88	86-88	"	Jan'y
4	May 25, 1885	August 25, 1885	94	102-08	102-08	"	Abortion Sept.
5	June 17, 1885	June 20, 1885	64	68-64	68-64	"	June
6	January 18, 1886	January 23, 1886	94	100-96	100-96	"	March
7	August 15, 1886	August 23, 1886	71	72-71	72-71	"	Delivered
8	November 8, 1886	November 12, 1886	66	66-68	66-68	"	"
9	October 22, 1886	October 28, 1886	82	82-86	82-86	"	"
10	April 4, 1887	June 23, 1887	63	67-65	67-65	"	"
11	November 13, 1886	January 6, 1887	70	70-71	70-71	"	Abortion Feb'y
12	March 15, 1887	March 22, 1887	86	84-82	84-82	"	Delivered
13	May 19, 1887	May 29, 1887	70	78-72	78-72	"	"
14	November 26, 1887	December 30, 1887	71	69-64	69-64	"	"
15	September 17, 1887	December 3, 1887	64	68-66	68-66	"	"
16	September 14,	January 3, 1888	82	80-82	80-82	"	"
17	March 18, 1888	April 10, 1888	82	80-82	80-82	"	"
18	August 12, 1888	September 16, 1888	82	80-82	80-82	"	Under observat'n*
		September 2, 1888	82	82-86	82-86	"	Abortion Dec.
		September 15, 1888	84	84	84	"	"

* Delivered May 1.

delivery. J. Braxton Hicks has published several articles in which he places great faith in the uterine contractions which occur throughout pregnancy, at a time varying from three to twenty minutes and continuing for a space of three to five minutes. I place reliance upon the pulse test, Jorissenne's sign, and have employed it for the past seven years, in a great number of cases.

There can be no possible objection raised to counting the pulse, and the result has removed all doubts in those cases in which I have employed it.

The diagnosis by Hegar's sign, by the thermometer, or by the softened condition of the os uteri, I have not been able to practice sufficiently to draw any satisfactory conclusions, as in each of the cases I have been controlled by the pulse test.

The principal object of this paper is to call attention to the value of the pulse test in those cases where much professional tact is required to solve the question of pregnancy. The following may be cited as a few of the cases in which I have applied this method of diagnosis:

The value of the pulse test consists in the sameness, or very little variation in the number of the radial pulsations, and while it is not infallible it possesses enough certainty to give it a place in the positive signs in forming the diagnosis of pregnancy. According to Jorissen's article published in the "Ann. Soc. de med-chir de Liege," vol. xxi, he has employed this sign since 1878, and some of the particulars of his cases are most conclusive. He refers to an article of H. Schapiro, published in Russian, in 1881, but I have seen neither the article nor the review of it which was published March 4, 1882, in the *Centralblatt für Medicinischen Wissenschaften*.

AN INTRODUCTION TO THE STUDY OF PNEUMONIC FEVER.

BY EDWARD F. WELLS, M.D.

SEVENTH PAPER—PREVALENCE.

AGE.

From the cradle to the grave—from the earliest infancy to the greatest age—man is liable to attacks of pneumonic fever. The newly-born babe, the prattling child, the rollicking boy and winsome girl, the bashful youth and demure maiden, the man in his strength and his mate in her loveliness, the sedate of both sexes as they descend the decline of life, and the aged totterers upon the brink of the grave; all furnish victims to this devouring enemy of mankind.

Although no age is exempt, yet the disease is met with much more frequently at some periods of life than at others. During early childhood pneumonic fever finds easy and exceedingly numerous victims. From 5 to 20 years of age the mortality sinks to its lowest level. From 20 to 40 years the proportion is increased somewhat,¹ to be again considerably augmented during the next score of years.² Old age comes on with a large—the largest—and increasing prevalence.

Grisolle³ says that it is "a disease very frequent from infancy to 20 years of age, . . . comparatively frequent from 20 to 40, less so from 40 to 60," and very frequent, and also very fatal, after 60 years of age."

Whether or no this malady is common in infancy has been a strongly controverted point by different writers.

Swett,⁴ Weber,⁵ Fox⁶ and others⁷ say that the disease may even attack the foetus *in utero*, and Hayne⁸ has recorded the particulars of such a case.¹⁰ It is perfectly well established that infants in the very earliest hours or days of life may be so attacked.¹¹ A fine example of pneumonic fever in an infant 15 days old, subjected to autopsical examination, is recorded by Smith.¹²

In the spring of 1875 a male and a female child, twins, aged 3 weeks, were suddenly attacked with a short, hacking, and apparently painful cough, extreme shortness and rapidity of breathing, and elevation of temperature. They failed rapidly and died, one on the morning and the other during the afternoon of the third day. At the autopsy the pleurae of both were inflamed, coated with recent lymph, and their cavities contained a quantity of flaky and yellowish serosity. In both were patches of consolidation throughout both lungs. In one of the children the cerebral membranes were intensely congested, with minute points of extravasation in the pia mater.

Another fatal case came under my notice in 1879, in which the patient was only 1 week old. A post-mortem examination was not allowed.

Juergensen¹³ states that at least three-fifths of all the cases of pneumonic fever occur between the ages of 1 and 14 years. Laennec¹⁴ says that children are "very subject to the disease, and the

¹ Traité de la Pneumonie, Paris, 1841.

² This statement is erroneous.

³ Diseases of the Chest, N. Y., 1854, p. 79.

⁴ Path. Anat. d. Neugeb. u. Säuglinge, Bd. ii, S. 411.

⁵ Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 160.

⁶ Reuse, Lungeneutzündung, Leipzig, 1861, S. 78; Weber, Path. Neugeb.

⁷ Am. Jour. Med. Sci., July, 1870, p. 222.

⁸ Förster, Handb. d. Path. Anat., Bd. ii, S. 248 thinks such cases especially prevalent in the course of epidemics of puerperal fever—the poison of which may be absorbed ante-partum and affect the foetus. Such cases are usually fatal a few hours after birth. See Fox, l. c., p. 160.

⁹ See Valleix et Vernois, Mal. des Enfants, Paris, 1858, T. ii, p. 280; Condie, Am. Jour. Med. Sci., July, 1870, p. 222; Bonchet, Diseases of Children, London, 1855, p. 325; Chomel, Pneumonie, Leipzig, 1841; S. J. Gerhard, Dis. Chest, Phila., 1860, p. 218; Barthé et Rilliet, Mal. des Enfants, T. i, p. 105; Guersent, Dic. de Méd. T. viii, p. 76; Williams, Cycl. Prac. Med., Vol. iii, p. 409; Laennec, Traité de l'Auscultation Médiate, Paris, 1819, p. 547; Juergensen, Ziemssen's Handb. d. Spec. Path. u. Therap., Bd. v, S. 21; Gumburg, Klinik d. Kreislaufs u. Athmungsorgane, Breslau, 1886; Copeland, Med. Dic., N. Y., 1855, Vol. ii, p. 860; Ziemssen, Pleuritis u. Pneumonie bei Kindern, Berlin, 1862, S. 155; Sturges, Nat. Hist. Pneumonia, London 1876, p. 124; Lombard, Arch. Gen. de Méd., January, 1831, Baginsky, Pneumonie u. Pleuritis, Tübingen, 1880, S. 3; Jörg, Handb. d. Kinderkrankh., 1836; Seiffert, Bronchopneumonie d. Neugeborenen, Berlin 1837; Steffen, Klinik d. Kinderkrankh., 1863; Rautenberg, Jahrb. für Kinderheilk., 1875, Bd. viii; Gerhard, Kinderkrankh., 1871; Henoch, Kinderheilkunde, Berlin, 1868, Bd. ii, S. 150; Steiner, Kinderkrankheiten, 1873; Paus, Lungeneutzündung, Leipzig, 1861, S. 64; Friedleben, Arch. f. Phys. u. Heilk., 1874, La Roche, Pneumonie, Phila., 1854, p. 423; Billard, Mal. des Nov.-Nés, Paris, 1833; Forbes, Trans. Laennec, Dis. Chest, N. Y., 1836, p. 226; and a great many others.

¹⁰ Med. Gaz. (N. Y.), May 26, 1883, p. 243.

¹¹ Berliner klin. Wochenschr., 1884, Nr. 17.

¹² Dis. Chest, N. Y., 1836, p. 226.

¹ Green, in Quain's Dic. Med., N. Y., 1883, p. 574, says that it is extremely frequent at this period, but this opinion is at variance with my statistical investigations.

² See Cullen, Prac. Phys., Phila., 1792, Vol. i, p. 182.

more so the younger they are." Audral¹⁵ affirms that "children are particularly prone to attacks of this malady, . . . it being one of the most powerful causes of the mortality of early life." Guersant¹⁶ was of the opinion that "three-fifths of the children that die in the hospitals of Paris between birth and the conclusion of the first dentition die of pneumonia." Gerhard¹⁷ says that few children die without pulmonary inflammation.

Lombard¹⁸ says: "From the first to the eighth day of life pneumonia constitutes seven-tenths of all the sickness, and one-sixth of the deaths are caused by this disease. As the function of the lungs is better established there is a falling off in the number of cases. In the second week pneumonia constitutes two-ninths of the sickness. Beyond the third week there is a considerable diminution in the proportion of cases. Between 6 weeks and 2 months it causes two-ninths of all sickness. From 2 to 6 months only one-tenth, but afterwards the ratio increases again. From 1 to 2 years it causes one-third of all sickness. From 2 to 6 years the proportion falls to from one-fourth to one-fifth. From 6 to 8 years it is a trifle greater. Between 8 and 11 years the proportion sinks to between one-fourth and one-sixth. In the twelfth year pneumonia is more frequent than in the immediately preceding or following years."

Of 608 cases analyzed by Louis,¹⁹ 206 were under 18 years of age, 118 from 18 months to 14 years, and 284 from 14 to 83 years.

That the disease, contrary to the opinions of some,²⁰ is a very common one in early life, is also proved by the following facts gleaned from registration reports:

Of 1,553 deaths from pneumonic fever in Manchester, Liverpool and Birmingham in 1839, 1,131, or 73 per cent., were under 5 years of age. Of 25,145 deaths from this cause in England in 1866, 17,460, or 69.4 per cent., were below the age of 5. Of 2,228 deaths from this disease in New York City in 1878, 1,134, or 54 per cent., were under 5 years of age. Of 60,675 deaths from this malady reported in twelve large American cities during recent years, 23,895, or 40 per cent., were below the age of 5. During a series of nineteen years in Massachusetts, twenty-four years in Vermont and fifteen years in Rhode Island, there were 46,563 deaths from pneumonic fever, and of these 17,284, or 37 per cent., were under 5 years of age. In the years 1883-4-5, in Ontario there were 3,797 deaths from this cause, 1,330, or 35 per cent., of which were under 5 years of age. In the United

States, in 1880, there were reported for analysis 63,079 cases of this disease, 19,004, or 33 per cent, of which were children under the age of 5 years.²¹

Reasoning from these statistics we are safe in estimating that at least one-third of all fatal cases of pneumonic fever are children under the age of 5 years.

It has been asserted that children are now more susceptible to pneumonic influences than formerly, but its more frequent appreciation in recent years is probably due to our improved diagnostics.

Thus, in the Vienna Institution for Children this disease was said to constitute but 2.3 per cent. of the total sickness at the beginning of this century,²² whilst fifty years later the proportion had risen to 7 per cent.²³

In this connection the difficulties of diagnosis in infantile pneumonic fever must not be underestimated. For an accomplished diagnostician these are by no means trifling, and we know only too well that, unfortunately, all persons who are by law empowered to write certificates of death are not of this class. There can be no doubt that a considerable number of children who are reported as having succumbed to "teething," "convulsions," "worms," "cerebral disease," etc.,²⁴ would be found to present the evidence of pneumonic inflammation were they subjected to necropsical examination. These remarks apply equally to many aged persons reported as dying from "coma," "cerebral disease," "apoplexy," "debility," etc.

These circumstances vitiate, to a certain extent, the value of all public mortality statistics. Hospital returns are but little more reliable, inasmuch as all ages do not alike frequent them.

Pneumonic fever attains its greatest prevalence in those who have passed the meridian of life.²⁵

Loomis²⁶ is of the opinion that fully 90 per cent. of the deaths of persons over 65 years of age are caused by this malady; in this, however, he is clearly in error, probably from trusting to individual impressions, rather than to statistics.

At the Soldiers' Home in Dayton 48 per cent. of all deaths in patients over 70 years of age are from pneumonic fever.²⁷

Humphrey²⁸ records a successful case of this disease in a female 104 years of age, and Lœber²⁹ one in a man of the great age of 110 years. In the United States in 1880, seventy-nine persons over 95 years of age died from this malady.³⁰

¹⁵ No attempt has been made to embody all the available material on this subject.

¹⁶ Golis, *Krankheiten d. Kindesalter*, Wien, 1820.

¹⁷ Ziemssen, *Pneumonie u. Pleuritis*, Berlin, 1862.

¹⁸ One Cincinnati certificate bore the legend that "She died with Liver disease & New Moon!" See *N. Y. Med. Rec.*, June 5, 1880, p. 698.

¹⁹ See Quain, *London Med. Jour.*, October, 1850; Day, *Diseases of Old Age*, London, 1840; Niemeyer, *Spec. Path. u. Therap.*, Berlin, 1862, Bd. ii, Patton, *Jour. Am. Med. Assoc.*, October 16, 1880, p. 425; Davis, *Prin. and Prac. Med.*, Chicago, 1881; Hourmann et Dechambre, *Arch. Gén. de Méd.*, T. xii; Grisolle, *de la Pneumonie*, p. 425; Fox, *Reynolds's Syst. Med.*, Vol. ii, p. 180, and many others.

²⁰ Charcot's *Diseases of Old Age*, N. Y., 1881, p. 207.

²¹ Patton, *Op. cit.*, p. 425.

²² *N. Y. Med. Rec.*, October 23, 1886, p. 473.

²³ *Lungenentzündung*, etc., Dresden, 1771.

²⁴ U. S. Census Report, 1880.

¹ *Med. Clin. Phila.*, 1843, Vol. ii, pp. 183-203.

² *Die de Méd.*, T. viii, p. 95.

³ *Ann. Jour. Med. Sci.*, Vol. xiv, p. 328.

⁴ *Arch. Gén. de Méd.*, January, 1831.

⁵ *On Phthisis*, Boston, 1836, p. 466.

⁶ Morgagni, *De Caus. et Sed. Morb.*, Cullen, *Prac. Physic.*, Phila., 1792, Vol. i, p. 182; Ruffz, *Jour. Con. Méd. Chir.*, 1844, p. 101; Smith, *Dis. Lungs in Children*, N. Y., 1881; Green, *Quain's*, *Dis. Med.*, N. Y., 1883, p. 74; Flint, *Prac. Med.*, Phila., 1868, p. 180; Hewitt, *London Lancet*, N. Y., 1887, Vol. i, p. 180; Tanner, *Diseases of Infancy and Childhood*, Phila., 1871, p. 308; Wilbrandt, *Inaug. Diss.*, Rostock, 1862; Huss, *Lungenentzünd.*, Leipzig, 1861, and many others.

The prevalence of pneumonic fever as influenced by age is shown by the following tables:

TABLE XVII.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY AGES

Mortality	Authority.	Cases by Ages.							Tot.
		—5	5-10	10-20	20-30	30-40	40-50	50-60	
	Author ¹	138	76	47	55	27	35	28	498
	Bamberger ²	..	..	23	62	38	28	64	187
	Bloch ³	..	7	295	489	250	290	128	1522
	Chomel ⁴	..	..	..	83	63	61	38	245
	Daubigny ⁵	..	..	..	13	44	37	17	118
	Plint ⁶	..	..	..	109	117	107	81	414
	Grisolle ⁷	..	..	..	84	169	806	350	1590
	Gunsberg ⁸	..	..	1450	890	800	599	450	5900
	Huss ⁹	..	..	..	104	816	203	125	2016
	Juergensen ¹⁰	..	116	55	22	21	22	29	239
	Koth ¹¹	..	..	25	79	43	30	34	150
	Schladat ¹²	..	..	2	71	27	24	26	237
	Rehder ¹³	..	..	..	20	31	6	8	65
	Wallers ¹⁴	..	98	68	25	..	..	..	186
	Totals	319	222	2323	3106	2319	1416	998	6685
	Per cent.	2.8	1.8	19.1	25.8	19.1	11.9	8.1	55.5

TABLE XVIII.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY AGES

Mortality.	Authority.	Deaths by Ages.							Tot.
		—5	5-10	10-20	20-30	30-40	40-50	50-60	
	New York City, 1878 ¹	1234	74	41	116	161	178	153	2588
	Connecticut, 1886 ²	204	35	28	59	59	75	99	886
	Zurich, 1840, 48, 49, 50, 51 ³	859	141	27	69	104	100	122	1281
	Massachusetts, 1863-81 ⁴	4397.3	1131	449	984	2438	2780	3176	35339
	Vermont, 1857-80 ⁵	2047	167	327	377	323	157	699	7093
	Rhode Island, 1865-79 ⁶	1264	96	115	207	296	297	341	3919
	Ontario, 1883-85 ⁷	1330	143	217	377	399	330	361	3797
	Cleveland, 1887 ⁸	171	13	15	17	16	21	21	311
	United States, 1880 ⁹	10604	2226	4733	6680	5504	5508	5777	63979
	St. Louis, 1885-86 ¹⁰	338	31	40	92	95	108	113	607
	California, 1884 ¹¹	38	1	9	12	26	34	47	166
	Totals	19550	4058	6002	8930	9321	10058	11041	129579
	Per cent.	33.6	3.3	5.0	7.4	7.7	8.3	9.1	14.7

The relation which the mortality from pneumonic fever bears to that from all diseases at the same age is shown in table xix.

TABLE XIX.—SHOWING PROPORTIONAL PREVALENCE OF PNEUMONIC FEVER BY AGES.

Mortality	Ontario, 3 years		U. S., 1880		Zurich, 5 years		Total					
	All	%	All	%	All	%	All	%				
Age	5	21,660	6.1	302,621	0.004	6.2	10,278	880	53	331,540	21.181	6.3
5-10	2,582	143	4.1	13,068	2.226	5.7	1,543	111	9.1	47,230	2,510	5.3
10-20	4,000	217	5.4	52,283	4.734	9.1	1,017	67	2.9	57,238	4,978	8.7
20-30	6,383	377	5.9	72,487	6.080	9.1	1,624	104	6.7	80,404	7,099	8.6
30-40	4,601	261	6.0	57,266	5.804	9.7	1,668	104	6.2	63,568	5,977	9.0
40-50	3,801	339	9.5	46,861	5.598	11.4	1,818	169	8.1	53,759	6,106	11.3
50-60	3,026	311	7.9	46,861	5.277	12.3	2,624	322	12.3	53,410	6,110	12.6
60-70	4,752	301	7.4	51,868	6.242	12.0	4,330	521	12.0	61,082	7,124	11.6
70	11,048	410	7.4	78,176	6.046	17.2	13,088	279	6.5	93,576	7,785	8.3
Total	93,015	3,797	6.0	753,608	63.079	8.3	29,117	2,481	8.5	845,827	69,357	8.0

The mortality rate, per 1,000 of population, of the same age, is shown in the following table:

TABLE XX.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY AGES

Mortality per 1,000 of population of same age. U. S., 1880.

Age.	Population.	Pneumonic Fever	Per 1,000.
5-10	6,014,516	10,964	2.75
10-20	6,479,060	2,226	.33
20-30	16,738,661	4,734	.44
30-40	9,168,263	6,650	.72
40-50	6,360,362	5,564	.87
50-60	4,558,256	5,508	1.22
60-70	3,111,317	5,777	1.85
70	1,850,009	6,242	3.41
Total	1,067,585	6,066	6.05

SEX.

Pneumonic fever does not prevail equally in the two sexes—males being attacked oftener than females. This statement has been copied from

¹ Ziemssen's Handb. d. Spec. Path. u. Therap. Bd. v., S. 26.

² Statistik d. Pneumonic Wirzb. 1860.

³ Quoted by Lepine, Pneumonie. Wien, 1883, S. 16.

⁴ Inaug. Diss., Erlangen, 1877, S. 26.

⁵ Pleuritis u. Pneumonie. Berlin, 1862.

⁶ Rept. Bd. Health 1878.

⁷ Rept. Bd. Health, 1886.

⁸ Weller, Inaug. Diss., 1854.

⁹ Reg. Rpt., 1881.

¹⁰ Reg. Rpt., 1880.

¹¹ Reg. Rpt., 1880.

¹² Reg. Rpts., 1883-4-5.

¹³ Rpt. Bd. Health, 1887.

¹⁴ Census Rpts., 1880.

¹⁵ Rpts. Health Com., 1885-86.

¹⁶ Rpt. Bd. Health 1886.

¹⁷ These results differ essentially from those given by Osterlen, Med. Statistik, Tübingen 1865.

¹⁸ Private Records.

¹⁹ Wiener med. Wochenschr., 1887, S. 897.

²⁰ Med. Jahresh., 1879.

²¹ Pneumonie. Leipzig 1841, S. 316.

²² N. Y. Med. Record March 28, 1885, p. 342.

²³ Prac. Med., Phila., 1868, p. 180.

²⁴ Traité de la Pneumonie, p. 101.

²⁵ Klinik d. Kreislaufs u. Athmungsorgane, Breslau, 1856.

²⁶ Lungenentzündung. Leipzig, 1862, S. 74.

one text-book into another from time immemorial, and is always accompanied by the simple and plausible explanation that, inasmuch as the habits and occupations of males lead to exposure of all kinds to a greater extent than their congeners, they are, therefore, oftener the subjects of this disease. In other words, it is affirmed that males are not more predisposed to the malady than are females, but are merely more exposed to what has been supposed to be the exciting causes.

LaRoche⁵⁷ is quite clear on this point, saying that "there are facts sufficient on record to warrant the assertion that this greater prevalence of the disease in the first mentioned (male) sex is not due to an inherent susceptibility, but to the result, when it occurs, of a series of fortuitous causes; more particularly to the circumstance that males—owing to the nature of their avocations and mode of life—are usually more exposed than females to the causes of pulmonary inflammations; and that in places where exposure is equal in both sexes the disease manifests itself as frequently in one as the other."

Other writers have made similar statements. Thus, Swett⁶ says that males are attacked oftener than females because of increased exposure, for, "where the sexes are equally exposed to the vicissitudes of the weather the difference is not striking." Chomel³⁹ says that the apparent cause of this difference in the liability of the two sexes to attacks of the disease is in their work, and that in the case of young children and very aged persons this does not appear. Peacock⁶⁰ says that "the greater tendency to pneumonia in men is simply due to their exposure to the exciting causes of the disease." Fox¹ affirms that this difference between the sexes is not observable in the earlier periods of life, but it becomes apparent first at ages when the occupations of the sexes differ, and when the males are more exposed to climatic influences than females. When, however, the conditions of life for both sexes are identical, this relative disproportion in a great measure disappears.^{11, 12}

This is only partially, if at all, true for, independent of such influences, there is an inherent propensity in the male, greater than in the female, to take on this form of disease. Indeed the proportion of males over females attacked is greatest in the earliest years of life and at an age when both sexes are exposed in an equal degree to the vicissitudes of the weather and other alleged causes of the malady. In this instance, as in so

many others, we must accept the fact, although we remain ignorant of the cause.^{11, 12}

The facts above indicated are clearly set forth in the following tables and statements:

TABLE XXI.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY SEXES

AUTHORITY.	Morbidity.			
	Cases	Males.	Females	
	Cases	%	Cases	%
Author. Private records	498	298	59.3	203 40.7
Borland, Boston City Hosp. Rpts., 1870.	199	118	59.3	72 37.0
Bouillaud, Dic. de Méd. T. xiii.	26	25	96.0	1 4.0
Briquet, quoted by Chomel, Pneumonie.	141	94	66.6	46 33.4
Boston City Hosp. Rpt., 1886.	182	110	72.4	42 27.6
Chomel, Pneumonie, Leipzig, 1841, S. 317.	275	212	77.0	63 23.0
Deutsche Med. Zeit., 83, Tregaglio Epid.	100	50	50.0	50 50.0
Doubleday, N. Y. Med. Rec., Mar. 28, '85, p. 343.	282	200	50.2	82 19.8
Folkmann, In. Diss., Erlangen, 1847, S. 9.	125	79	63.2	46 36.8
Holt, N. Y. Med. Rec., Apr. 7, 1888, p. 386.	234	142	60.7	92 39.3
Huss, Lungenentz., Leipzig, 1862, S. 71.	2710	2350	53.3	451 16.7
Juergensen, Ziemssen's Hand. Bd. v. S. 23.	765	417	54.5	343 45.5
Louis, On Phthisis, Boston, 1836, p. 440.	75	52	70.9	23 30.0
Newport Hosp. Rpts., 1884-85.	29	20	68.9	9 31.1
New York Hosp. Rpts., 1878-87.	577	460	79.9	117 20.1
Providence Hosp., Washington Rpt., '87.	9	5	55.5	4 44.5
Peacock, St. Thomas' Hosp. Rpts., Vol. v, 1875.	100	81	81.0	19 19.0
Roosevelt Hosp., N. Y., Rpts., 1872-86.	492	364	74.0	128 26.0
St. Louis Hosp. Rpts., 1876-87.	9	3	33.3	6 66.7
Vienna Hospits., Blach, Statistik, 1882.	11442	8247	72.0	3195 28.0
Juergensen, l. c., S. 23.	7942	5457	68.8	2485 31.2
Waller, Inaug. Diss., Erlangen, '77, S. 26.	81	71	87.6	10 12.4
Weller, Inaug. Diss., Zürich, 1854, S. 38.	30	20	66.7	10 33.3
Wilbrandt, In. Diss., Rastock, 1862, S. 9.	126	108	85.3	21 16.7
Schwarz, Inaug. Diss., Erlangen, 1881.	10	7	70.0	3 30.0
Folkmann, Inaug. Diss., Erlangen, 1847.	128	79	61.2	49 38.8
Baginsky, Pneumonie u. Plenritis, S. 4.	1023	556	54.1	467 45.9
Ziemssen, Pleuritis u. Pneumonie, S. 156.	186	114	61.3	72 38.7
Kocher, Pneumonie etc., Würzb., 1866.	20	21	72.4	5 27.6
Totals	27653	19963	72.2	7740 27.8

TABLE XXII.—SHOWING PROPORTIONAL PREVALENCE OF PNEUMONIC FEVER BY SEXES

Morbidity											
AUTHORITY.	Total.			Males.			Females.				
	Adm.	P	F	Adm.	P	F	%	Adm.	P	F	%
Vienna Gen. Hosp., 1858-70	299,920	7942	188,273	5467	2.9	111,646	2475	2.2			
N. Y. Hospital, 1878-87	42,304	577	32,780	460	1.4	9,605	117	1.2			
Roosevelt Hosp., 1872-86	25,862	492	19,720	364	2.2	8,842	128	1.4			
Providence Hospital, 1887	1,642	9	1,147	5	4	495	4	3			
Newport Hosp., 1884-85	357	29	221	20	9	136	9	6			
Author.	30,482	498	17,636	295	1.7	12,846	203	1.5			
Totals	400,366	9547	259,786	6611	2.5	143,570	2936	2.0			

TABLE XXIII.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY SEXES.

AUTHORITY.	Mortality.			
	Deaths from P. F.	Males	Females.	
	Deaths	%	Deaths	%
England and Wales, 1839. Reg. Rpt.	18,151	10,000	55.5	8,151 44.9
London, 1838-39. Reg. Rpt.	7,431	3,984	53.7	3,447 46.3
New York, 1878. Health Rpt.	2,288	1,204	52.6	1,084 47.4
Eighteen Am. Cities, Reg. Rpts.	57,587	29,807	51.6	28,080 48.4
U. S., 1870 and 1880, Census Rpts.	103,165	57,881	56.1	45,284 43.9
Ziemssen, Prag Vierteljs., 1888.	161,640	89,533	55.5	72,107 44.5
Massachusetts, 1881, Reg. Rpt.	2,967	1,481	50.0	1,486 50.0
Rhode Island, 1868-70, Reg. Rpt.	3,620	1,773	48.9	1,847 51.1
Zürich, 1840-51, Weller, l. c.	2,482	1,248	50.0	1,234 50.0
Vermont, 1857-70, Reg. Rpts.	7,331	3,700	50.6	3,631 49.4
Connecticut, 1885-86, Reg. Rpts.	1,268	675	53.3	593 46.7
Ontario, 1884-85, Reg. Rpts.	3,948	2,167	55.0	1,781 45.0
Massachusetts, 1890, Reg. Rpts.	1,630	931	56.8	708 43.2
St. Louis, 1886-87, Reg. Rpts.	1,007	508	50.1	413 40.9
Totals	371,920	204,628	54.6	169,788 45.4

⁵⁷ Pneumonia, Phila., 1854, p. 418.

⁵⁸ Diseases of the Chest, N. Y., 1856, p. 82.

⁵⁹ Pneumonie, Leipzig, 1841, S. 317.

⁶⁰ St. Thomas' Hosp. Rpts., 1875.

⁶¹ Reynolds's Syst. Med., Phila., 1880, Vol. ii, p. 156.

For further opinions in the same strain consult Grissolle, *Traité de la Pneumonie*, Paris, 1841, p. 114; Williams, *Cycl. Prac. Med.*, Vol. iii, p. 289; Vallois, *Guide du Méd. Prat.*, T. ii, p. 259; Green Quain's *Dic. Med.*, N. Y., 1883, p. 874; Tanner, *Infancy and Childhood*, Phila., 1872, p. 95; Huss, *Lungenentzündung*, Leipzig, 1861, S. 71; Lépine, *Pneumonie*, Wien, 1883, S. 18; Fagge, *Prac. Med.*, 1887; Satterthwaite *Phila. Med. News*, Jan. 5, 1880, p. 3.

TABLE XXIV.—SHOWING PROPORTIONAL PREVALENCE OF PNEUMONIC FEVER BY SEXES

AUTHORITY.	Males.			Females.		
	Deaths.	P. F.	%	Deaths.	P. F.	%
Cleveland, 1887, Rpt. Bd. Health.	2,186	175	8.0	1,953	130	7.0
United States, 1880, Census Rpt.	301,990	35,493	9.1	364,933	27,860	7.5
Ontario, 1883-85, Reg. Rpts.	32,094	2,107	6.0	31,192	1,771	5.7
Massachusetts, 1863-81, Reg. Rpts.	260,567	20,401	7.5	270,918	19,591	7.2
Rhode Island, 1865-79, Reg. Rpts.	44,292	1,773	4.0	42,059	1,854	4.4
New Hampshire, Reg. Rpt., 1885.	2,913	244	8.0	3,194	259	8.1
Vermont, 1880, Reg. Rpt.	2,548	178	7.0	2,674	158	5.9
Totals	706,195	60,431	7.8	710,593	51,329	7.1

TABLE XXV.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY SEX AND AGE.

OBSERVER.	Age.	Morbidity.									
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Doubleday, op. cit.	5-10	4	17	10-20	4	17	20-30	17	70	30-40	17
Waller, op. cit.	11-15	2	4	16-25	18	29	26-35	18	13	36-45	13
Huss, loc. cit.	16-20	6	195	21-25	3	901	26-30	2	2	31-35	2
Ziemssen, loc. cit.	31-35	57	68	36-40	38	23	41-45	102	79	46-50	10
Gerhard, Am. Jour.	51-55	12	38	56-60	14	10	61-65	10	10	66-70	2
Med. Sci.	66-70	81	44	71-75	32	24	76-80	11	12	81-85	13
Author.	86-90	57	32	91-95	159	122	101-105	784	351	106-110	21
Totals.	111-115	99	57	116-120	73	184	121-125	128	127	126-130	41
Per cents.	131-135	60.2	68.0	136-140	79.4	84.9	141-145	86.9	73.4	146-150	63.7
	151-155	30.8	32.0	156-160	26.6	15.1	161-165	14.0	26.6	166-170	39.3

TABLE XXVI.—SHOWING PREVALENCE OF PNEUMONIC FEVER BY SEX AND AGE.

AUTHORITY.	Age.	Mortality.									
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Zürich, Weller, loc. cit.	5-10	401	389	11-15	74	14	16-20	74	67	21-25	148
England, 1860, Reg. Rpt.	26-30	8,040	2,503	31-35	53	58	36-40	51	60	41-45	137
Massachusetts, 1881	46-50	501	501	51-55	38	8	56-60	110	145	61-65	163
Rhode Island, 1870.	61-65	411	48	66-70	58	88	71-75	104	115	76-80	173
Un. States, 1880.	81-85	10,440	1,451	86-90	2	4	91-95	11	13	96-100	16
Totals.	101-105	8,555	1,081	106-110	2,583	3,094	111-115	3,333	3,014	116-120	3,580
Per cents.	121-125	1,259	2,630	126-130	3,299	3,580	131-135	3,025	3,060	136-140	3,080
	141-145	11,847	1,202	146-150	2,224	2,824	151-155	2,657	2,462	156-160	3,144
	161-165	62.1	51.1	166-170	51.2	59.1	171-175	55.1	50.3	176-180	50.9
	181-185	37.9	48.9	186-190	45.8	40.9	191-195	44.9	40.7	196-200	49.1

In England and Wales the death-rate from pneumonic fever is 1.34 and 1.06 per 1,000 for males and females respectively.⁶⁴ In the United States it is 1.39 per 1,000 for males and 1.12 for females.⁶⁵

From these tables, which deal with numbers of sufficient magnitude to reduce to a minimum the sources of gross errors, it is clear that, all along the line, pneumonic fever prevails to a considerably greater extent in males than in females.

It has been supposed that this greater prevalence of the disease in males depended upon the class of people furnishing the statistics. That this is not the case is proven by the returns from various populations. Thus amongst a purely agricultural people the proportion of deaths is 58.8 males to 41.2 females. Amongst a manufacturing class it is 54.5 to 45.5, and in largest cities it is 53.6 to 46.4, males and females, respectively.⁶⁶

In studying this subject statistically there are some points to which especial consideration should be accorded. Thus, if we confine our inquiries to the available statistics of *cases* we must draw our material largely from hospital reports. Now it is notorious that the two sexes do not seek admittance into these institutions in equal numbers, the proportion of males in the population from which they draw their patients being largely in excess of the females. It is clear, therefore, that if we confine ourselves to these figures we will be led into the error of attributing to males a much larger proportion of cases than really belongs to the sex.

On the contrary, if we turn our attention to the returns of *deaths*, the question arises whether the disease is equally fatal in males and females. According to most authorities and my own investigations the mortality is considerably greater in the latter than in the former sex. It follows, then, that if such statistics be employed the proportion of males will be shown too small.⁶⁷

RACE.

The various races of mankind are not attacked with the same frequency by pneumonic fever. The negro⁶⁸ is peculiarly subject to attacks of this

⁶⁴ Dinstl, *Österr. Zeit-schr. f. Prakt. Heilk.* Bd. viii, 1862. Reuf, *Heidell. Med. Ann.* Bd. ii, 1836. Tolmouch, *Ann. de Hyg.* T. xiv, p. 252, and others have not been able to notice any difference in the liability of the sexes to attacks of this disease.

⁶⁵ Second Rpt. Reg. Gen., Walsh, *Dis. Lungs*, Lond., 1861, p. 224.

⁶⁶ U. S. Census Rpts., 1880.

⁶⁷ Jürgensen, *Ziemssen's Handb. d. Spec. Path. u. Therap.* Bd. v, S. 34.

⁶⁸ The normal death-rate, from all causes, is somewhat greater in the male—15.35 per 1,000—than in the female—14.81 per 1,000 of population. See U. S. Census Rpts., 1880.

⁶⁹ Flint, *Prac. Med.* p. 181. Chomel, *Pneumonie*, S. 313. Cartwright, *N. O. Med. Jour.* Vol. ix, p. 205; Gibbs, *Am. Jour. Med. Sci.* Oct. 1842; Despartes, *Mal. de St. Domingo*, T. i; Daniel, *Topog. and Dis. Guinea*, p. 53-64; Leblond, *Fevvers*, p. 77; Campet, *Mal. des Pays Chauds*, p. 210; Bajon, *Mal. de Cayenne*, T. i, p. 73; Grier, *N. O. Med. Jour.* Vol. ix, p. 430; Harris, *Trans. Am. Med. Assn.* Vol. v, p. 573; Prunner, *Krankh. d. orient.*, Erlangen, 1847; Pendleton, *Fenner's Reports*, Vol. i, p. 335; Lewis, *N. O. Med. Jour.* Vol. iv, p. 34; Jackson, *Sketches of Jamaica*, Vol. ii, p. 53; Hirsch, *Hist. Geog. Path.*, Erlangen, Bd. ii, S. 38; Drake, *N. O. Med. Jour.* Vol. i, p. 584; Tulloch, *Stat. Rpts. Brit. Army*, Coldidge, U. S. Army Rpts.; Armstrong, *U. S. Marine Hosp. Rpts.* 1886, p. 124; Lee, *Copeland's Med. Dic.* Vol. ii, LaRoche, *Pneumonie*, p. 416.

malady, especially when removed from his native land. The average African's indolence, habits, mode of living, loss of sleep, debauchery, venereal excesses, cold sleeping rooms, exposure to night air and, to him, low range of temperature, etc., are conditions which certainly have an influence in causing an excessive prevalence in this race as seen in this country.

The functions of the skin in the negro are more extensive and important than in the Caucasian. It is more actively depurative and is to a greater extent supplementary to the lungs and liver—throwing off a great amount of moisture and carbonic acid—and external impressions which cause suppression of the perspiration are prone to be followed by pneumonic fever.

The disease is asthenic, rapidly exhaustive, attended with marked mental and physical prostration and is often latent and unsuspected. Copious effusion into the pleural sac, alveoli and bronchi is the rule. It frequently appears as an intercurrent affection—often without subjective symptoms.

During a series of years there occurred at the Memphis Marine Hospital 404 cases of disease amongst the white sailors, with 10 cases of pneumonic fever—.22 per cent.—whilst the blacks furnished 525 cases of all diseases, with 26 of pneumonic fever—5.0 per cent.⁶⁹ In the British Army this malady affords 20.2 and 33.3 cases per 1000 of force annually in whites and blacks respectively.⁷⁰ In 1880, in the Southern States⁷¹ pneumonic fever figured in the census returns one-half more in the case of the blacks than in the whites.

Pneumonic fever is very prevalent amongst the American Indians. In a population⁷² of 78,521 the death-rate was 2.65 per 1000 persons and it caused 7.4 per cent. of all deaths.⁷³ It is also common to the Esquimaux, in whom it is very fatal, assuming a low, adynamic course.

The Malays and the natives of Hindostan and Burmah are but little prone to attacks of this disease.⁷⁴ This is also true of the Chinese.⁷⁴

The malady is more prevalent in some branches of a race than in others. Thus it is the cause of a greater proportion of deaths in the Celt than in the Teuton.⁷⁵

RESIDENCE.

Where people congregate for residence, there, other things being equal, will pneumonic fever be found in the greatest proportion.⁷⁶ This fact

is shown in the following tables and statements:

TABLE XXVII.—SHOWING PREVALENCE OF PNEUMONIC FEVER IN RURAL AND URBAN DISTRICTS.

COUNTRY.	AUTHORITY.	Country.		Cities.		Excess in	
		Per 1000 Pop.	%	Per 1000 Pop.	%	Rate	City.
Alabama	U. S. Census Rpts.	1.38	2	1.44		.06	
Ireland	Ziemssen	.27	4	.58		.31	
Belgium	Sanders	.85	2	1.74		.89	
Germany	Sanders, Hirsch.	1.34	10	1.54		.20	
Massachusetts	U. S. Census Rpts.	1.35	1	1.23		12	
New York	Ibid.	1.03	3	1.82		.79	
California	Ibid.	.74	2	1.61		.87	
South Carolina	Ibid.	1.12	1	1.30		.18	
Scotland	Sanders	.73	8	1.12		.39	
Nor. & Sweden.	Sanders	1.60	2	2.00		.40	
Illinois	U. S. Census Rpts.	1.48	1	1.09		.39	
Ohio	Ibid. Health Rpts.	.75	2	1.47		.72	
Colorado	U. S. Census Rpts.	1.02	1	1.85		.07	
Denmark	Sanders, Ziemssen	1.57	1	1.71		.14	
France	Sanders	1.90	1	2.56		.66	
Louisiana	U. S. Census Rpts.	1.56	1	1.59		.03	
Maryland	Ibid. Health Rpts.	1.13	1	1.13			
Wisconsin	U. S. Census Rpts.	.78	1	.90		.12	
Connecticut	Ibid. Health Rpts.	1.15	2	1.43		.28	
Ontario	Reg. Rpts.	.51	9	1.02		.51	
Pennsylvania	U. S. Census Rpts.	.97	2	1.47		.50	
Rhode Island	U. S. Census Rpts.	.90	1	1.50		.60	
Virginia	Ibid. Health Rpts.	1.24	2	1.52		.28	
Missouri	Ibid.	2.18	1	3.77		1.59	
Switzerland	Sanders	1.50	3	1.71		.21	
Averages		1.21		1.62		.41	

In London, in 1838–39 there were reported 7,431 deaths from pneumonic fever, whilst the rural counties of Cornwall, Devonshire, Dorsetshire, Somersetshire and Wiltshire, with about the same aggregate population, returned, during the same years, but 3,446 deaths from the same cause, being in the proportion of 1000 urban to 463 rural. In these same years twenty-four town districts in England returned 15,062 deaths from this cause, whilst twelve country districts, having approximately the same population, returned only 6,218 deaths from the same cause, being in the proportion of 1000 urban to 413 rural.⁷⁷

It follows, as a reasonable conclusion, that if pneumonic fever is more prevalent in the towns than in the cities that, in general, it will be met with more frequently in the larger cities than in the smaller ones,⁷⁸ and this can be shown to be a fact.

TABLE XXVIII. SHOWING PREVALENCE OF PNEUMONIC FEVER IN CITIES ACCORDING TO SIZE.

Mortality.		
Population.	Cities No.	Per 1000 Pop.
Above 1,000,000	5	1.82
500,000 to 1,000,000	11	1.74
200,000 to 500,000	28	1.79
100,000 to 200,000	52	1.45
50,000 to 100,000	36	1.18
10,000 to 50,000	93	1.24
Total and average	225	1.38

Although pneumonic fever is comparatively infrequent in sparsely settled districts,⁷⁹ it there pursues a more acute course than in populous neighborhoods.

20; Sanders, *Am. Jour. Med. Sci.*, July 1882, p. 89; Geike, *Trans. Int. Med. Cong.*, N. Y. Med. Rec., Sept. 10, 1887, p. 204; Fox, *Reynold's Syst. Med.*, Phila. 1880, Vol. ii. 77 Reg. Gen. Rpts., 1838–9.

78 Sanders, *Am. Jour. Med. Sci.*, July, 1882, p. 90.

79 See Geike, *op. cit.* et al.

⁶⁹ Armstrong, *op. cit.*, p. 129. ⁷⁰ Tulloch, *op. cit.*

⁷¹ U. S. Census Rpts., 1880.

⁷² See U. S. Census Rpts., 1880; See also Glissan, *Coolidge's Rpts.*, p. 276. It is very common and very fatal on the Indian Reservation of the West. See *Coolidge's Rpts.*, p. 269; Hirsch, *op. cit.*; Drake, *16th Int. Valley N. A. Cincinnati*, 1880.

⁷³ See Balfour, *Edinb. Med. and Surg. Jour.*, Vol. lxxviii, p. 33; Hirsch, *op. cit.*

⁷⁴ U. S. Census Rpts., 1880, Vol. xi, p. 559.

⁷⁵ U. S. Census Rpts., 1880.

⁷⁶ Ziemssen, *Präger Vierteljahrschr.*, 1868; Hirsch, *Hist. u. Geog. Path. Bd. ii*; Copeland, *Med. Dic.*, Vol. ii, Drysdale, *N. Y. Med. Rec.*, Oct. 22, 1887, p. 551; Gairdner, *London Lancet*, 1885, Vol. ii, p. 247; Juergensen, *Ziemssen's Handb. d. Spec. Path. u. Therap.*, Bd. v, S.

Domiciliary crowding is accompanied by an excessive prevalence of the disease.⁸⁰ Those who are ground down by the iron heel of poverty suffer far more than the wealthy.⁸¹

Those who go down to sea in ships are but little liable to attacks of this disease.⁸²

Thus of 24,000 sailors in the French navy only 175—7.3 per 1000—were attacked by pneumonic fever.⁸³ In the U. S. navy it is even less prevalent, being in 1880, 5.2, per 1000, and in 1881, 4.5 per 1000.⁸⁴

Soldiers are more liable to attacks of pneumonic fever than are civilians of the same age.⁸⁵ Thus in France the number of cases per 1000 of military age is 30, whilst in the French Army it is 39. Common soldiers suffer more than officers, and infantry more than cavalry.⁸⁶

In garrison they suffer more than when on the march, in peace than in war⁸⁷ and on land than at sea.⁸⁸ These facts are probably due to the fine weather, pure air and healthy condition of the troops, when a march, campaign or voyage is undertaken.

The inmates of prisons, asylums, monasteries are said to be more liable to attacks of this malady than persons enjoying their freedom,⁸⁹ but this is not borne out by my experience or investigations.

For many years I saw all the cases of illness occurring among 500 inmates of cloisters, and met with pneumonic fever only twice in eight years.

Addison⁹⁰ says that "it is somewhat singular that, as a general rule, pneumonia is a disease not often met in hospital wards." This statement does not agree with the statistics which I have adduced or the observations of physicians generally.⁹¹ Indeed I am convinced that the proportion is greater than in private practice.

RECURRENCE.

A person who has once had pneumonic fever is subsequently more liable to be attacked than one who has never experienced the disease.⁹²

Of 78 infantile cases analyzed by West, 31 had had previous attacks—21 twice, 4 thrice, 2 four times, and 4 several times. Ziemssen found that of 201 cases, 19 had had the disease previously—14 twice, 3 thrice, and 4 four times. Of 175 cases tabulated by Grisolle, 54 had had preceding attacks. Of 212 cases analyzed by Griesinger, 36 had had the disease before. Rush⁹³ has noticed three, four, five and eight attacks in the same individual, Paget seven, Chomel ten, Frank eleven, Kocher⁹⁴ eleven, Andral sixteen, and Rust⁹⁵ as many as twenty-eight. Of 252 cases reported by Doubleday⁹⁶ 12 had had previous attacks. Of my 498 cases 101 had had the disease previously—76 twice, 14 thrice, 5 four times, 1 six times, and 1 eight times. In quite a large number of patients treated for other maladies the history developed the fact that they had previously suffered from multiple attacks of pneumonic fever.

Children are peculiarly liable to multiple attacks, Juergensen recording the case of a girl four years of age, who had already had six attacks.

The intervals between the attacks may be more or less prolonged—varying from a few weeks to several years.⁹⁷ They are necessarily shorter in proportion to the frequency of recurrence. Ziemssen's⁹⁸ inquiries developed the curious fact that in some cases there is a tendency to recurrence at about the same time each year.

Thus in one case the first attack occurred Dec. 17, 1856, and the second Dec. 12, 1857. In another case the first attack occurred Aug. 8, 1856, and the second July 6, 1857. In yet another instance the first attack came on Jan. 28, 1856, the second Jan. 6, 1858, and the third Jan. 25, 1859.

Such coincidences have not been conspicuous in my list of cases.

Recurrence is oftenest noticed when the local lesion is in the left lung,⁹⁹ and the same lung is apt to be again and again affected,¹⁰⁰ although not necessarily in the same part.¹⁰¹

The persistent recurrences of pneumonic fever has been attributed to the gouty diathesis.¹⁰² In England, where gout, amongst the upper classes, is the national disease and the insignia of age and respectability, the occurrence of repeated attacks of this disease in subjects of this diathesis may be a frequent coincidence, but I venture the assertion that recurrent attacks occur with equal frequency in other lands where gout is almost unknown.

⁸⁰ Sanders, op. cit., p. 91; Gairdner, op. cit., p. 247.
⁸¹ Hirsch, op. cit., S. 37; Vacher Med. Stat. et Mortal., etc., en Paris, 1865, p. 139; Newton, Trans. Conn. Med. Soc., 1888.

⁸² Grisolle, Traité de la Pneumonie; Swett, Dis. Chest, p. 81; Fox, op. cit., p. 154; Hermann, Lungenentzündung, S. 6.
⁸³ LeRoy de Méincourt, quoted by Grisolle.

⁸⁴ U. S. Naval Rpts., 1880-81.
⁸⁵ Laveran, Ann. d'Hyg., 1866; Fox, op. cit., p. 155; Hermann, op. cit., S. 6; Lancereaux, Ann. d'Hyg., T. xiii, p. 209; Valleix, Prat. Méd.; Marsten, Trans. Int. Med. Cong., Washington, 1887.

⁸⁶ Fox, op. cit., p. 155; Hermann, op. cit., S. 20.
⁸⁷ See Hermann, op. cit., S. 6.

⁸⁸ Lebert, Klinik d. Brustkrankh., S. 710, comes to an opposite conclusion on this point.

⁸⁹ Vacher, op. cit., p. 139; Juergensen, op. cit., S. 21; et al.

⁹⁰ London Lancet, N. Y., 1855, Vol. i, p. 357.

⁹¹ Faure-Villars, Mém. de Méd. Mil., 1853, p. 204.

⁹² Frank, Interpret. Clinice, Tübing., 1812, p. 96; Grisolle, Traité de la Pneumonie, p. 3; Andral, Med. Clin., Vol. ii, p. 192; Chomel, Pneumonie, S. 319; LaRoche, Pneumonia, 1854, p. 409; Schuyler, N. Y. Med. Jour., 1883, Sept. and Oct., pp. 232-401; Ziemssen, Pleuritis u. Pneumonie, S. 153; Flint, Jour. Am. Med. Assn., Nov., 1885, p. 613; Paget, Clin. Lec.; Juergensen, Ziemssen's Handb. Bd. v, S. 29; Orton, Med. News, Nov. 28, 1885, p. 613; Griesinger, Arch. d. Heilk., Bd. i, S. 471; Curtis, Boston Med. and Surg. Jour., Mar. 17, 1881, p. 251; Baker, Proc. Mich. Bd. Health, Oct. 1, 1886, p. 11; West, Dis. Children, Col. Inv. Com. Rpt. Brit. Med. Jour., Dec. 1, 1883; Doubleday, N. Y. Med. Rec., Mar. 28, 1885, p. 343; Weber, N. Y. Med. Rec., Apr. 4, 1886,

p. 373; Baginsky, Pneumonie, etc., Würzh., 1880, S. 8; Smythe, Trans. Indiana Med. Soc., 1888, p. 34.

⁹³ Quoted by LaRoche, op. cit., p. 400.

⁹⁴ Lungenentzündung, etc., Würzh., 1866, S. 4.

⁹⁵ Quoted by Ziemssen, op. cit., S. 154.

⁹⁶ N. Y. Med. Rec., Mar. 28, 1885, p. 343.

⁹⁷ Fox, Reynold's Syst. Med., Phila., 1880, Vol. ii, p. 157, found recurrence to take place, usually, in from 3 to 5 years.

⁹⁸ Op. cit., S. 153. ⁹⁹ Fox, op. cit., p. 157.

¹⁰⁰ Kocher, op. cit., S. 4. ¹⁰¹ Juergensen, op. cit., S. 20.

¹⁰² Curtis, Boston Med. and Surg. Jour., Mar. 17, 1881, p. 251; Paget, op. cit.,

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN
PENNSYLVANIA HOSPITAL BEFORE
THE STUDENTS OF THE WEST-
ERN PENNSYLVANIA MEDI-
CAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PRO-
FESSOR OF CLINICAL SURGERY IN THE WESTERN PENN-
SYLVANIA MEDICAL COLLEGE.[Reported by WILL. N. PRINGLE, M.D., a member of the Gradu-
ating Class.]*February 9, 1889.*

THE TREATMENT OF HÆMORRHOIDS.

I have a patient to show you to-day with that very prevalent disease, namely, hæmorrhoids. Now as you know there are two principal varieties of hæmorrhoids, the internal and the external, and those two varieties have their seats in the two plexuses of hæmorrhoidal veins. The inferior plexus is situated just within the sphincter ani, and empties its blood into the illiac veins, and then through the inferior vena cava to the heart. The superior plexus is situated about one inch above the inferior plexus, and empties its blood, via the portal system, into the liver, and thence through the vena cava to the heart. The causes of hæmorrhoids is the same as that of varicose veins in any other part of the body, and that is obstruction to the return circulation; this may result from various causes, as abdominal tumor, gravid uterus, constipation, impaction of fecal matter in the rectum, being constantly on the feet, together with many other states and conditions of the system. External piles are at first the same as internal piles, but from constant congestion and by being repeatedly forced down in defecation, they become as it were strangulated in the rectum and the blood becomes organized, into forming small tumors which sometimes appear as little tags, around the verge of the anus.

It is said that man is the only animal that is subject to piles, a penalty apparently for his being in the erect posture. The treatment is palliative and curative. The palliative treatment consists in removing obstructions to the return circulation and stimulating a torpid liver when this condition exists. A favorite laxative with me is that known as Van Buren's mixture which is as follows:

R. Magnesia sulphas,
Potassii bitartras,
Magnesia carbonas,
Sulphur sublimat, ʒʒ equal parts.

Mix et signa one heaping teaspoonful in water before breakfast.

This mixture, taken in this way, keeps the bowels in a softened and moistened condition and favors peristaltic action. The curative or

radical treatment consists in operative measures. In external piles where they appear as little tumors or tags, you may snip them off with the scissors, or a scalpel; there is very rarely any hæmorrhage, and when there is it is easily controlled, as the bleeding point is under your eye. Not so, however, with internal piles; in these the vessels may be large and not so readily accessible, and patients have been known to bleed to death before these vessels could be controlled. In dealing with this form of piles we use the clamp, the cautery, or the ligature. In using the clamp, the pile is caught at its base, between the jaws of the clamp, tightly compressed, then cut or shaved off, in front of the clamp, and the cut surface or stump seared with the actual cautery; this is Mr. Smith's operation, and the clamp is called Smith's clamp. Another and a more recent operation consists in injecting the pile with carbolic acid. This operation originated among men outside of the profession, or irregulars; it sometimes acts very effectually and with so little pain or inconvenience to the patient, that the regular profession are now giving it a trial. This is not the first case, either, in which the profession has received valuable hints from charlatans. Mr. Heaton's cure for hernia, by the use of white oak bark, originated in the same class of people, and the fact that we accept and use these hints, merely shows that we, as a class, are not bigoted, obstinate, nor old fogies, but are willing to accept any thing, from any source, that offers good to our patients.

The patient requires to be prepared for this operation, the bowels should be unloaded by a cathartic the day before, and an injection should thoroughly cleanse out the rectum a few hours before the operation; the external surface should also be thoroughly washed with soap and water. I propose to inject these piles to-day with carbolic acid and the solution I prefer consists of the following:

R. Ac. carb. ʒss.
Glycerine,)
Aqua,) ʒʒ ʒj. m

The needle is then made to pierce each pile and four or five drops of the solution left as near the centre of the pile as possible. In order to deaden the sensibility to pain which sometimes follows the injection of the acid, I will first inject ten or fifteen drops of a 4 per cent. solution of cocaine. After the injection of the cocaine, the needle is allowed to remain in the pile about two minutes, while the syringe is removed and filled with the acid solution, and again attached to the needle and the acid injected. Shortly after the injection of the acid the pile turns to a purplish or bluish color and becomes hard. A compress is applied over the anus retained by a T bandage, the patient is put to bed and given a quarter of a grain of morphia, and the pile soon shrivels up and dis-

appears. To-morrow the patient will be allowed to walk about the ward, and in a day or two can go about his business.

Some precautions are always advisable in doing this operation; after you have dilated the sphincter ani, and brought the piles into view, it is always well to pass a small sponge with a string attached into the rectum, to prevent feculent matter from coming down to interfere with the operation. It is also necessary for you to lubricate all the surrounding tissues, to protect them from any of the acid that may be dropped on them. I would also suggest that you do all as humanly as possible; do not cause your patient unnecessary pain. I think that surgeons get careless about this sometimes. I am sure that if it was their own case they would be more careful. As I said, this operation is only on trial yet. In my hands it has not yet yielded very brilliant results, and I do not believe that it is as efficient or as certain in its results as our old plan of operating.

POTTS' FRACTURE.

I have another case to show you, one of interest, and one that affords me an excellent opportunity to speak to you on the subject of Potts' fracture. This is an exceedingly common form of accident and one which you may be called on to treat during the first months of your practice. It consists of a fracture of the fibula two and one-half inches above the ankle joint, together with rupture of the internal lateral ligament and frequently the internal malleolus is fractured off and dislocated inward with the foot and astragalus. It is caused by a violent turning of the foot outward; the patient falls from a height, striking on the inner side of his foot; the foot is strongly everted and the entire weight of the body coming on the internal lateral ligament, it ruptures or fractures off the internal malleolus; the whole force is then directed against the external malleolus forcing it outward.

Now, the fibula you know, is attached to the tibia by means of the interosseous or tibio fibular ligament. With strong pressure forcing the lower end of the bone outward, the bone is made to act as a lever, with the ligament acting as a fulcrum, and the fibula gives way and is thrown against the tibia. The bones may be forced through the skin, constituting a compound fracture, and the joint may be thoroughly disorganized, making it a compound complicated fracture. There is increased mobility: the lower end of the tibia or the internal malleolus forms a prominent projection inward. At the seat of fracture of the fibula a depression exists, as there also is where the internal malleolus is fractured off; and you will see by looking at this patient's foot that the joint has a "spread" appearance. The object of treatment is to prevent the foot from remaining everted, the tibia and fibula must be made to

grasp the astragalus and then be retained in that position. For this purpose many splints and appliances have been devised. It is not sufficient that the foot be made straight, it must be held in an inverted position. In this hospital we use the plaster dressing, and I had intended to apply that dressing to this limb in your presence to-day, but as you see, the limb is too much swollen and congested, so we will defer that operation and show you a fractured humerus.

TREATMENT FOR FRACTURES OF THE HUMERUS.

We have a patient here who had his humerus fractured by direct violence on December 7. He remained in the hospital for about four weeks, when he went about his business. Shortly afterward when alighting from a moving car he had his arm twisted, refracturing his humerus at the same place by indirect violence. I would like to say a few words here in regard to the treatment of fractures of this bone. We more frequently have non-union of fractures in this, than in any other bone in the body, and especially if it be fractured about its middle, and this, I think, is from faulty treatment, from not retaining the fractured extremities in apposition. We may be able to reduce the fracture, and we almost always do; but do we retain it in position, do we immobilize it? I think that we frequently do not. The arm is an exceedingly difficult extremity to keep perfectly quiet; patients will move the arm more or less in spite of themselves. It has long been a rule in the treatment of fractures that the joint nearest a fracture be confined, or rendered immobile; this I consider good practice in the majority of cases, but I think there are exceptions to it, and the case of a fracture at the middle of the humerus, I think, is an exception to the rule; because, if the arm cannot be kept at rest and the elbow is firmly confined, then the motion must take place at the seat of fracture; therefore I do not fix the elbow, and I believe that to be the proper treatment. This, however, only pertains to fractures of the shaft. When the fracture is through, or near the condyles, then, of course, it is preëminently necessary to fix the elbow. Acting on my convictions therefore, I propose to apply to this fracture a short anterior and a short posterior splint, and a shoulder cap.

February 23, 1889.

GUNSHOT-WOUND IN THE LEG.

I have a patient here to show you to-day, a boy of 14 years of age, who two weeks ago shot himself in the leg below the knee with a small rifle, known as a target, or Flobert rifle. He at once applied to a physician, who was evidently a sensible man, inasmuch he at once endeavored to render the wound antiseptic; but who again was not as sensible as he might have been, because he probed the wound. He did not find the ball

either, a usual result in such cases. The boy then came to the hospital and was not probed here, and the ball still remains in his leg; and as you see he does not suffer any inconvenience from it, he walks well and feels no pain. This should be a very instructive case to you, because it will serve to illustrate the folly of probing for bullets, in gun-shot injuries. A great surgeon has divided gun-shot wounds into two great classes, namely those that have been fingered, and those that have not been fingered. The greatest damage that a bullet can do is done in its passage through the body, it being surrounded by fire from the discharge of the powder and its rapid flight through the air, have rendered it aseptic, and the wound it inflicts will therefore be aseptic, and you know that the tissues are very tolerant of metallic substances; you know this from seeing us day after day inserting metallic sutures into almost any and every tissue of the body. You also know that men have carried needles, bullets and other metallic substances in their bodies for years without inconvenience. It is said that Andrew Jackson carried a bullet, received in a duel, in his body for twenty years, with little or no pain or inconvenience. You know therefore that bullets are in many cases aseptic, and innocuous, and that by probing the wound with a foul finger, or a dirty probe, you may carry germs into the wound, thereby rendering the wound septic and doing your patient irreparable damage. There are, however, cases in which it becomes absolutely necessary to remove the bullet, as where it rests in a vital part, or against a nerve. And where you do probe a wound, you should do it strictly, antiseptically, cleanse the surrounding parts, cleanse your hands and probes in antiseptic solutions and never pass a probe into a gun-shot wound in search of a bullet until you have everything in readiness to remove the ball if your probe should come in contact with it. Otherwise the information gained by probing will be lost, and you will have done an unwise act. Never do anything, until you are prepared to do everything, is a good motto in these cases.

Dr. Park, the distinguished Buffalo surgeon, relates a case of a young man, a laborer in a freight yard, being accidentally shot in the region of the nipple, a number of surgeons gathered at once and began probing the wound. When Dr. Park arrived he was assured by one of the surgeons, (who triumphantly exhibited his probe), that he had passed his probe into the man's body to the extent of three or four inches. He was asked if he found the bullet, and replied he did not. Dr. Park then suggested that they make a thorough examination of the body, and on turning the man over, they found another wound, at the lower angle of the scapula; the wound of exit of the bullet. And these surgeons had been

diligently probing for a bullet that was not in the man's body, but that had gone flying far out in the freight yard. And suppose they had succeeded in locating the ball in the body, their information could have availed them nothing, because they were not prepared to remove it. Dr. Park relates another case, of a surgeon passing a probe into a man's brain, in search of a bullet, when the information could have been of no value whatever to him, because he was not prepared to remove it, and he was already aware that it was in the brain, because brain substance was oozing from the wound behind the ear. I hope now that you all see the folly of such proceedings and not only the folly but the danger. You not only render the wound septic, but you may disturb clots and cause hæmorrhage, which may cost your patient his life. Now let me tell you the proper thing to do in these cases. First occlude the wound with some antiseptic material, cotton wool or soft cloth saturated in any antiseptic fluid, will answer the purpose very well, then if it becomes necessary to remove the ball, transport your patient to a place where you can have all the requirements and appliances for removing the ball before you begin to probe, and be sure that the ball is still in the patient's body before you do any unnecessary probing. Also bear in mind that bullets almost always deviate or are deflected from their course; do not try to force your probe in any direction, but allow it to follow the course of the wound slowly and carefully, which it will sometimes do almost by its own weight.

MEDICAL PROGRESS.

ON DIAPHORESIS IN SYPHILIS.—DR. RADESTOCK, of Geithain (Saxony), again calls attention to this subject in an article which recently appeared in the *Therapeutische Monatshefte*, where he mentions the use of decoctions from lignum vitæ, divers infusions, mercurial fumigations, and among others, the thermal springs at Aix-la-Chapelle and Wiesbaden. Syphilis would not improve by the sole use of sudorific means, without the help of classical treatment, but their combination with mercury or iodide of potassium appears of undeniable value, inasmuch, probably, as it favors the elimination of the specific poisons, the same as sweats in fevers or infectious diseases. We notice, for instance, that in people who perspire a great deal, as in soldiers or stokers, roseola does not last as long as in others, and even small-pox is less serious. Radestock's method consists in prescribing a hot bath of about 30 minutes duration, until the skin becomes red. To continue the perspiration tea or hot infusions are given, or subcutaneous injections of 2 centigr. of chlor-

hydrate of pilocarpine daily, as does Lewin in the Berlin Charité for medium forms of syphilis. Also vapor baths or hot-air baths might be used, which could be given while the patient is in bed, with the help of a stove invented by Dr. Friedler, and used by him in the Dresden Hospital. At first, and in grave cases, Radestock bathes his patients every day; later on, when all manifestations have disappeared, once a week; after that at greater intervals.—*Journal de Médecine de Paris*, May 5, 1889.

A NEW RAPID PROCESS OF COLORING THE TUBERCLE BACILLUS.—MR. GABRIEL ROUX communicates a new method, by Martin Herman, of Liège, which is as follows: After the cover-glass preparations have been made as usual they are dipped for one minute in the following mixture: 1. Crystal violet, 1 gr., alcohol of 95°, 30 c. c., (a few drops). 2. Carbonate of ammonia, 1 gr., distilled water, 100 c. c. (a few cubic centimetres), which is kept at the boiling point during the entire period of immersion. Then wash in water and discolor for four or five seconds in a water solution of nitric acid, 1:10 for sputa and 1:4 for sections. Then wash in alcohol of 95 per cent. and examine immediately. If a double coloring is desired, immerse for one to two minutes in the following solution: Eosine 1 grm., alcohol of 60° 100 c. c. The great merit of this new process is that it is trustworthy, and requires no especial degree of skill; it is not any more rapid, nor any more brilliant in its results than its immediate predecessors, but it is more practical.—*La Province Médicale*, May 11, 1889.

CYSTIC DISEASE OF KIDNEY DIAGNOSED DURING LIFE.—At a recent meeting of the Glasgow Pathological and Clinical Society, DR. DAVID NEWMAN showed preparations from a case of cystic degeneration of the kidney diagnosed during life, which presented exceptional symptoms. The patient, a man æt. 46, suffered from dyspeptic symptoms, headache, giddiness, persistent renal pain, and hæmaturia. The pain was first felt on the right side, and, although severe, was unattended by hæmaturia. Eleven months subsequently pain developed in the left side, with a slight tinge of blood in the urine. When he came under Dr. Newman's care the symptoms led to the suspicion of malignant tumor of the kidney; but, on rough examination, it was found that the urine contained a larger quantity of albumen than could be accounted for by the hæmaturia alone, and for the purpose of ascertaining the relative amount of hæmoglobin and albumen a careful analysis of the urine was made on twelve occasions. When the albuminuria was due to the presence of blood, the ratio of hæmoglobin to albumen was as 1.6 to 1, but as shown by the analysis, the average ratio in the twelve specimens was

as 1 to 3.6, that is to say, not more than a fifth part of the albumen present in the urine could be attributed to the blood. The microscope showed hyaline and tube casts; by obtaining separate samples of urine from the two ureters, it was ascertained that the blood came from the left kidney only. Physical examination revealed distinct swellings in both renal regions, which steadily increased in size. There was also evidence of hypertrophy of the left ventricle of the heart and increased arterial tension. The case illustrated the value of detailed estimation of the quantities of albumen and hæmoglobin in cases of hæmaturia, and also the benefits to be derived from an examination of the separate specimens of urine from each kidney. In most cases of cystic disease the symptoms were those of chronic Bright's disease, with swellings in the groins superadded; not infrequently this disease had been confounded with ovarian cystoma, and kidneys had been removed under mistaken diagnosis. In respect to surgical treatment nothing should be done. On account of the wide distribution and multilocular character of the cysts, no benefit could be expected from nephrotomy, while nephrectomy was contra-indicated, because the disease was not only bilateral, but the kidneys were the seat of chronic interstitial nephritis, so that if one were removed, the remaining one was unable to do the additional work thrown upon it. Of 16 cases of nephrectomy for cystic degeneration which Dr. Newman had collected, 6 died, 2 from peritonitis, 1 from uræmia, 2 from shock and collapse, 1 from oedema of the lungs, while 10 recovered, thus giving a mortality of 37.5 per cent.—*The British Medical Journal*, May 25, 1889.

MURMURS IN THORACIC VESSELS FROM EFFUSION OF FLUID INTO PLEURA.—DR. SIDNEY PHILLIPS, in a series of papers just published in *The Lancet*, says: A murmur is sometimes produced in the large vessels of the thorax from the rapid effusion of fluid into the pleura. The following case affords an example of this. A male patient who had been ill in bed for a month with chest symptoms, who had been repeatedly examined by several physicians, and in whom it was certain that no murmurs existed, after pleuritic friction had been observed for some days, was found to have the signs of a large accumulation of fluid in the left pleural cavity. The effusion was very rapid, the dulness in a few hours rising to the level of the spine of the scapula. The apex of the heart was felt plainly in the right axilla, and there was evidence of considerable compression of the lung. Simultaneously a murmur of great intensity was developed; it was heard beneath the sternum opposite the second and third rib cartilages, and could be traced obliquely to the left behind that bone in the second and third left intercostal spaces. Supervening suddenly as it did.

and coincidently with the rapid effusion into the pleura, it could hardly have been the result of anything but traction upon and stretching of one of the large vessels in the thorax, and from its position and direction appeared to be produced in the pulmonary artery. That this was so was borne out by the fact that after several aspirations of fluid the chest was eventually incised, and as the heart returned to its position the murmur entirely disappeared. I have not found any definite allusion in any of the works I have been able to consult of murmurs in the arteries produced in this way, but the recognition might be important, for in cases where the patient had by previous observation been known to be free from murmur such a bruit as that heard might be readily taken in conjunction with the other physical signs for evidence of aneurism or intra-thoracic tumor.

PURE CULTURE OF THE TETANUS BACILLUS OF NICOLAÏER.—M. KITASATO, of Tokio, Japan, recalls the discovery of the tetanus bacillus by Nicolaïer, its presence in the soil, its existence in men afflicted with tetanus (Rosenbach), and claims that so far it has not been possible to obtain pure cultures of this bacillus.

A young soldier died from tetanus. In the pus of his wound the bacillus of Nicolaïer was found. Inoculation of this pus upon mice produced in the latter genuine tetanus, and the characteristic bacillus was found in them. But cultivation failed, and only mixed cultures were obtained. In examining these more closely Kitasato found by the side of Nicolaïer's bacillus, three kinds of anaerobic microbes, and seven kinds of aerobic microbes; neither the former nor the latter could cause tetanus.

The tetanus bacillus is a genuine anaerobic bacillus. After having discovered that the mixed cultures obtained from the tetanus pus contained the largest number of Nicolaïer's bacilli when the oven is kept at 36° , Kitasato exposed them for some time to this temperature, and then, the cultures being in full development, he placed them for a short time in a water-bath at 80° . This temperature kills the adventitious microbes, but lets the spores of the tetanus bacillus live. After this partial sterilization the plate-culture was kept in a temperature of from 18° to 21° , in an atmosphere filled with hydrogen. In this way he succeeded in obtaining a pure culture of Nicolaïer's bacillus, with which he was able to produce tetanus in rats, guinea-pigs, and mice. The tetanus always begins to spread from the point of inoculation. The parts surrounding the latter are always the first to be affected with tetanus.

Nicolaïer's bacillus bears heat well. It is necessary to expose it to a temperature of 100° for five minutes in order to kill it. A solution of phenic acid of 5 per cent. did not destroy at the end of ten minutes. It is remarkable that the

bacilli disappeared rapidly from the blood. It seems that they develop ptomaines there. This must be established by future experiments.—*La Semaine Médicale*, No. 18, 1889.

A NEW PTOMAINE.—HOFFA, of Würzburg, wishes a distinction made between septic intoxication and septic infection. When numerous microorganisms are found in the blood, one may speak of a septic infection. But in other microbial affections the microbes are not found in great numbers, on the contrary, they are very rare and it is almost by accident that they are found. In these cases where the bacteria disappear so rapidly from the organism, they are killed by the ptomaines which they produce, and of which various authors (v. Bergmann, Brieger, and others) have already shown us typical forms.

Hoffa repeated the experiments of Brieger. He intoxicated a rabbit with bacilli of septicæmia of mice, and prepared it according to Brieger's process, carefully excluding the urinary organs and alimentary canal from the carcass to be examined. In this way he succeeded in isolating a base which was recognized as methylguanidine ($C_2H_7N_3$), *i. e.*, as the same poison which Brieger and Bochlisch obtained with the bacilli of Finkler-Prior.

As methylguanidine originates from the oxidation of creatine, Hoffa subjected a healthy rabbit to a chemical analysis, treating it in the same way as the one infected with bacilli, and no traces of methylguanidine could be found. This base is a strong poison, of which 0.20 centigr. suffice to kill a rabbit. It is, therefore, methylguanidine which is produced by the bacilli of septicæmia, and which kills the animals. From the bacilli of rats he isolated a toxic base, of which $C_3H_8N_2$ is the formula; it is, therefore, a principle differing from methylguanidine.—*La Semaine Médicale*, No. 18, 1889.

ON COLD ABSCESSSES AFTER MALARIA.—DE SABOIA (Rio de Janeiro), in the "Bull. et mém. de la soc. de chir. de Paris," T. xiv, p. 141, calls attention to a very rare exception to the rule that most cold abscesses are of tuberculous origin. He observed in 4 cases cold abscesses after acute malarial infection. After a severe malarial fever in the different patients a large number of abscesses formed within 12–48 hours, differing in size from almonds to considerable volume, without any fever, pain, or reddening of the skin; only slight tenderness to pressure indicated the formation of a new pus center. In one patient 28 abscesses had to be opened within a few weeks. A cure resulted in every case. Bacteriological examination proved the existence in the pus of the malarial microbes described by Mardrinfava and Celli. The possibility of tuberculosis was absolutely excluded.—*Centralblatt für Chirurgie*, May 11, 1889.

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SATURDAY, JUNE 22, 1889.

THE NEED OF SANITARY LEGISLATION.

It is an accepted fact that the health of a Nation is paramount to its commercial prosperity, and that when human life is imperiled thereby, even the wheels of commerce must stop. It is also an axiom that the demands of the public good are paramount to individual interests. The practical application of restraints upon business for the protection of health is often severe in its effects upon individual interests, and nothing but the strong arm of the law can make such restraints operative. Hence the necessity of municipal and of State legislation for the preservation and protection of the public health. The intelligence of the American people is such, and such their estimate of human life, that they need only to be advised as to the best means of exercising sanitary control, to strongly uphold all legitimate legislation in this direction. In fact, the progress in matters of sanitary legislation during the last few years has been in the highest degree commendable.

Until a comparatively recent period the control of matters affecting the public health was vested in the police legislation of our larger cities. More recently nearly every incorporated city in the Union has more or less perfectly developed its system of sanitary supervision. During the last fifteen years State after State has taken this matter in hand, until now, instead of a half dozen, at least thirty of the States of this Commonwealth have organized their State Boards of Health. So far as we are able to learn, the power vested in

these several Boards has been exercised, in the main, with eminent discretion. In each individual city and in each State, even in emergencies, the exercise of the powers thus vested seem ample to meet ordinary necessities.

But there are conditions in which the limitations imposed upon cities and even upon States are such as to render necessary a supervising control which reaches beyond the city, beyond the State, and can only be exercised by the authority and in the name of the Nation. We do not propose to enter upon the discussion of local or State rights as applied to the control of epidemics and infectious diseases, but we think it is manifest to all candid men, that emergencies are liable to occur at any time wherein adjacent States may find their interests conflicting, and where want of concerted action may render sanitary restrictions practically inoperative. The peril to the body politic, when a pestilence is traveling across the continent, is not limited to cities or by States. It is national in its relations, and the law that cannot be operative for its control, by reason of municipal or State limitations, is unequal to the emergency. Hence the necessity of National legislation and maintenance of a National Board of Health.

In this country power is so largely vested in the States that it becomes a matter of most careful consideration as to the proper adjustment of responsibilities and control, but we are confident that the time is at hand when such adjustments should be made. In the day of severe calamity, we shall not have time for the settlement of questions of such moment.

It is manifest that National legislation alone can meet the needs when National interests are involved, and the importance of the subject is such that the wisest measures should be thoroughly matured and made operative by appropriate legislation. Possibly a Bureau, in connection with one of the State Departments, could best assume the surveillance of the public health; of International and inter-State quarantine, of vital statistics, and of the sanitary conditions of National thoroughfares, and thus render an invaluable service to the Nation.

But the Department of Public Health should be removed as far as possible from the vicissitudes incident to politics, and those who by reason of talent, culture and fitness may be called to fill the responsible positions connected with this depart-

ment, should be so assured of a permanency as to warrant the sacrifices that such appointment might demand. The subject is not new; nor should it be allowed to grow *old* while there is such manifest need of further National legislation for the perfection of our sanitary laws.

MASSAGE IN GYNECOLOGICAL PRACTICE.

Resuming the discussion of this subject at the point where it closed in the last issue, we desire to consider, *first*, the method of treatment of uterine displacement adopted by Brandt.

Brandt's most original method of treatment, and the one indeed whose invention is no doubt rightly ascribed to him, is termed "elevation of the uterus" (German, *Uterushebung*; Swedish, *Lyftrörelser*), which may be briefly described as practiced by him in prolapsus uteri. The patient lies on a low, short, reclining chair. The physician begins by replacing the uterus, which he then supports by pressure on the cervix. He then indicates to an assistant the position of the fundus. The assistant lays his outspread hands upon the lower part of the abdomen and makes equable pressure in a backward and upward direction, taking care not to displace the uterus. This manœuvre is repeated thrice, deeper pressure being made each time in the direction of the inguinal region. The assistant then holding his hands in a strongly supinated position, lays the tips of his fingers on the abdomen close to the edge of the symphysis and bending over the patient until his face approaches hers, he lays both hands quite flat on the patient's abdomen (one at either side of the physician's hands) and pushing the abdominal walls before him seeks to press deep down upon the cervix, taking care to keep close to the posterior surface of the symphysis. The physician next removes his external hand, while the assistant seizes the uterus from before and a little to one side and endeavors to lift it in an upward and forward direction, succeeding in which he then slowly and cautiously allows it to glide from his hands.

The height to which the uterus can be raised, depends upon the extent of relaxation of its ligaments and the degree of vaginal collapse. The uterus should be only moderately elevated at first; later on it should, in some cases, be raised to the level of the umbilicus. The uterus should be

elevated in this manner three times, with short intervals, at each sitting; after which massage of the uterus, Douglas' folds and the parametrium must be practiced. Contraindications are every acute and subacute inflammation of the pelvic organs, as well as the presence of an exudate. In prolapse the object of treatment is more quickly attained if the patient (at least in the early part of the treatment) keeps in bed and if the elevation of the uterus be practiced twice per diem; otherwise much of the results may be lost.

The next measure to be adopted, is that of pressure made a few times upon the pudendal, hypogastric and solar nerves. The object of this is to abolish all unpleasant sensations and prevent lascivious sensations.

Next in order is the forced abduction of the knees against muscular action exercised by the patient. This is regarded by Brandt and his followers, as a potent means of strengthening the pelvic floor; for the pelvic diaphragm (and especially the levator ani) is thereby excited to contraction whereby the muscular structures are gradually strengthened.

Finally, we have the stroking of the back and the tapping of the lumbar and sacral regions. The former is practiced by holding the hands together and making with the ulnar border of the little fingers short rapid strokes at either side of the spinal column from the neck to the loins and back again. The tapping of the lumbar and sacral regions is accomplished by means of the the closed hand, five strokes being made twice on either side of the lumbar vertebræ and seven strokes twice repeated on either side of the sacrum. These taps are to be made from the wrist joint and not from the elbow.

In regard to Brandt's treatment as applied to the various forms of pelvic exudates, it may be said to offer most available and valuable aid to the deplorably limited therapeutics of this department of gynecology. One writer (Dr. A. Winawer, *Centr. für Gynäkologie*, Dec. 29, 1888) who has found it most useful as an adjuvant to the diagnosis of tubal tumors, expresses himself as follows: "In cases where the tube is embedded in knotty masses of exudate and cannot be palpated even in narcosis, massage enables us to secure almost ideal relations for the examination; for when the abdominal walls are not too thick, all the pelvic organs can be palpated because, 1st,

after massage the abdominal walls are relaxed, yeilding and non-sensitive, and 2d, the knotty para- and perimetritic masses, adhesions of the ovaries, etc., are dissipated, so that the parametrium becomes elastic and painless. In this wise a diagnosis of salpingitis may often be made where otherwise no definite results could be obtained even during narcosis, and where there was, perhaps, no suspicion of tubal diseases.

Such, in outline, is the Brandt method of gymnastic massage. Of the inventor and his method we find, for the most part, extremely flattering accounts, particularly in the German current literature. Prof. Schaüta, for instance, says that "Brandt is a complete master of gynecological diagnosis. I was astonished at the minuteness and accuracy of his diagnosis."

On the other hand we have, naturally enough, unfavorable reports and accounts of unsuccessful cases treated by Brandt's methods. It is unnecessary, of course, in connection with a comparatively novel and strange method of cure to point out the causes of failure; but it should be observed that Brandt himself is adapted both by nature and art for the successful pursuit of his methods. He is endowed with great muscular strength, and has an unusually powerful hand with fingers of exceptional length.

It has been objected to Brandt's methods, that they are rude and harsh; but those who have seen him at work and who have had the best opportunities to judge, do not seem to so regard them. Other objections are the length of time required in the manipulations, which will of course prevent many a busy practitioner from applying the treatment which, nevertheless, cannot readily be relegated to assistants; for all are agreed that the greatest diagnostic skill is an absolute prerequisite to successful practice in this line.

It may readily be understood that the treatment is disagreeable alike to patient and practitioner; but it is to be remembered that some of the greatest triumphs have been witnessed in cases that had proved not amenable to any other forms of treatment, short of radical operations of a surgical nature.

If female gynecologists shall prove to have the necessary physical requirements for the successful employment of the methods in question, it will doubtless afford them a wide and profitable field of useful labor.

EDITORIAL NOTES.

HOME.

THE AMERICAN EDITORS' MEETING.—Our editorial confrères are reminded that the annual meeting of the American Medical Editors' Association will be held in the Casino, Newport, R. I., on the Monday evening preceding the meeting of the American Medical Association. The title of the President's Address will be "Our Duties as Journalists and the Reforms which we should Persistently Advocate." This meeting is open to every editor or member of the editorial staff of any regular medical journal in the United States and Canada.

A CASTOR OIL TRUST is being formed, and the preliminary work has been completed. There are seven castor oil mills in the country and the business is profitable. The mills to go into the combination are the Collier and Brown and Kansas, of St. Louis; the Belleville Oil Co., of Belleville, Ill.; Baker and Burke, of New York, and a concern at Memphis. There has been a pool in existence for years, but the business is so profitable that new capital is finding its way in, and the object of the trust is to regulate competition and control the outputs.

DR. H. W. ROSE, member of the Rhode Island State Board of Health has been succeeded by Dr. Herbert J. Pomeroy.

THE PHILADELPHIA MEDICAL MISSION treated 3,220 cases last year, and held 1,017 meetings.

DR. JEROME COCHRANE, State Health Officer of Alabama, has been making a tour of investigation through South Florida and Havana, and reports that he found very few cases of yellow fever at Havana, and only one case in Florida.

DIPHTHERIA.—Dr. John Irving, in the *British Medical Journal*, supports the view that "huge collections of decaying vegetable matter," such as stable manure, may, by disturbance, generate the disease, and cites several cases to prove his assertion.

THE COMMITTEE OF ARRANGEMENTS.—The Association were exceedingly fortunate in the selection of Dr. H. R. Storer, as Chairman of the Committee of Arrangements. The Committee are also indefatigable in their efforts to formulate such plans as will inure to the comfort and entertainment of the members of the Association.

The *Newport Observer* says: "They (the Committee) have had much to contend with, but it looks now as if hereafter there will be smooth sailing. Every one will hope so, and also hope that their efforts may be crowned with success."

THE DEARBORN OBSERVATORY, recently erected at Evanston, Ill., in connection with the new Astronomical Department of the Northwestern University, and containing the great equatorial, known as the Dearborn telescope, was dedicated last Wednesday with appropriate ceremonies. The building cost \$25,000, and was donated by Mr. James B. Hobbs, of Chicago.

FOREIGN.

THE JUBILEE MEETING of the Irish Medical Association was held in the College of Surgeons at Dublin, on the 3d inst.

THE *British Medical Journal* in its issue of June 1, presented its readers with a fine engraving of the statue of Queen Victoria recently unveiled by the Prince of Wales in the Medical Examination Hall on the Thames Embankment.

A TYPHOID COMMISSION IN INDIA.—A commission has been appointed to inquire into the causes of the excessive prevalence of enteric fever among young European officers and soldiers. At present, there appears a consensus of opinion to the effect that sewage contamination is the *fons et origo* of the mischief.

SMALL-POX IN INDIA.—A serious outbreak of this dread disease is reported from Belgaum. There are 120 cases, and the vaccinators are hard at work.

A NEW HOSPITAL FOR BOMBAY.—The foundation stone of the Bomanji Edulji Allibless Obstetric Hospital was recently laid by the Governor. Dr. Edith Pechey is to preside over the destinies of this new hospital.

THE ROYAL COLLEGE OF SURGEONS AND ITS MEMBERS.—The branches of the British Medical Association are supporting the demands of the members for reform by passing the following resolutions:

1. "That this meeting sympathizes with the desire of the Royal College of Surgeons of England to take part in the management of the affairs of the College."
2. "That this meeting strongly approves of the reform of the Royal College of Surgeons of England."

The *Provincial Medical Journal* advises the

members not to allow the resolutions to remain a dead letter, but to seek the coöperation of Members of Parliament in their respective districts.

HOSPITAL FOR MEDICAL STUDENTS AT VIENNA.—*Le Progrès Médical* states that a society has been formed in Vienna to provide for the comfort of students who are ill. A hospital is about to be established for their accommodation.

AN INTERNATIONAL CONGRESS OF THERAPEUTICS AND MATERIA MEDICA will be held in Paris, from August 1 to 5. It is open to all medical men, chemists and veterinary surgeons who send in their names and a fee of ten francs. There will be two Sections—one devoted to therapeutics, the other to materia medica. Amongst other questions the following are set down for discussion: 1. Antithermia and analgesic remedies. 2. The antiseptics best adapted for each species of pathogenic microbe. 3. Cardiac tonics. 4. New vegetable drugs recently introduced as therapeutic agents. 5. Uniformity of weights and measures employed in formulæ, and the utility of an international pharmacopœia.

THE PERILS OF BOOK REVIEWING were exemplified in a suit brought in a London court about a month ago, against the publishing firm of MacMillan & Co., for an alleged libel consisting of a review of Dr. Herbert Tibbits' work on "Massage and Allied Methods of Treatment" which appeared in *Nature*. The review was a caustic one, and in it occurred this sentence: "Any one even slightly acquainted with the subject will at once perceive that its writer, while professing to teach massage, has not mastered the first principles of the subject." The plaintiff claimed \$5,000 damages. The jury awarded him one farthing; and the judge refused him his costs.

THE SANITARY CONDITION OF NAPLES.—Active measures were inaugurated last Saturday, in which the King and Queen of Italy assisted, for improving the sanitary condition of Naples. The poorest districts of the city, where the cholera epidemic of 1888 made such ravages, will be thoroughly renovated. Seventeen thousand houses will be demolished, new streets erected, and the main street will intersect the district which now contains the most pestilential dwellings. It will take ten years to complete the work.

ASSOCIATION NEWS.

Notice to Exhibitors. Correction of Errors.

In THE JOURNAL of June 1st, page 783, there was an inadvertent use of a circular copy containing errors and which was superseded many weeks ago. If our Committee had been advised that there was to be a publication of the matter in the pages of THE JOURNAL we would have provided correct copy. In the document as published "\$19.00" should be made \$23.75, and "\$20.00" should be \$25.00.

C. A. BRACKETT,
E. P. ROBINSON,
Sub-Committee on Exhibits.

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting, January 30, 1889.

THE PRESIDENT, CHARLES E. HAGNER, M.D.,
IN THE CHAIR.

DR. A. A. HOELING reported the following :

1. GUN-SHOT WOUND OF THE SPHENOID BONE ;
CASE AND SPECIMEN. 2. GALL-STONES.

Dr. Hoehling asked that the stones be referred to the Committee on Microscopy, as he was not certain whether they were gall-stones or concretions formed by the olive oil which the patient had taken. There being no objection the stones were referred.

DR. J. FORD THOMPSON : The case of gun-shot wound had been thoroughly reported, and there was little left for him to say, unless he opened the whole subject of gun-shot wounds, which he did not propose to do. He had had several similar cases, but death had been almost instantaneous. His last case was that of a young man on 13th street, who put the pistol in his mouth and death was immediate. Whenever the weapon is put into the mouth and fired it is not good surgery to explore the wound inflicted.

DR. LLEWELLYN ELIOT read a paper entitled
THE DIAGNOSIS OF PREGNANCY IN THE
EARLY MONTHS.

(See page 867.)

DR. A. H. HOEHLING reported

A CASE OF GUN-SHOT WOUND OF THE SKULL
MADE WITH SUICIDAL INTENT.

On December 16, 1888, there was admitted to this hospital, John H. L., a private in the U. S. Marine Corps, aged 42 years, native of Pennsylvania ; enlisted in Washington, D. C., on Dec. 7, 1888, for the third time.

Diagnosis.—Vulnus sclopetarium.

Origin.—Self-inflicted, and therefore not in the line of duty. The patient was discharged on the expiration of his second term of enlistment, about twenty hours before he reenlisted, as above stated. He had been on duty at League Island, Philadelphia, and his discharge took place there. He went on a spree and was robbed of the savings of five years while intoxicated, so he came here to begin life again as a private, having last been a sergeant. His descriptive list states that he had slight cardiac hypertrophy, and we found a small goitre, with decided exophthalmos, which latter was noticed by others before he shot himself. He had never been sociable with his messmates, but had one or two intimate friends among them, and was regarded as a good soldier, faithful on duty. He admits having carried the cartridge which he used for over two years in his pocket, with some vague notion, probably not well defined to himself. There is a rumor that he once jumped overboard, but I have not traced it to confirmation. He attributes his present attempt to mental depression consequent on the abuse of liquor, and the loss of all of his money, about \$250, for which he stood many a weary watch on board ship in distant seas, and amid the swamps of the League Island Navy Yard. At the latter place he was much exposed to malaria, and had there suffered from the same. On admission to the hospital, at 8:15 o'clock, A.M., the patient was in a state of profound shock, pulse rapid and almost imperceptible at the wrist ; respiration slow and labored ; surface cold and blanched. Blood was oozing from his nose and mouth, and he had the appearance of having lost considerable blood. Whiskey, as well as ammonia, were at once given by the mouth and hypodermically, also ergotine, atropia sulph. et morphia sulph. hypodermically ; ice was placed in his wounded mouth and hot bricks to his surface, to produce reaction, which latter was also hastened by hypoderms of sulphate of sparteine, and carbonate of ammonia by the mouth. In about an hour the patient had revived sufficiently to allow an examination of the injury. He said that he had used a Springfield rifle, charged with a " practice cartridge," which contained 5 grains of powder and will carry 100 feet with precision. In addition to the ball already in the metallic cartridge he placed two more bullets in it ; he then fastened a loop to the trigger, put the muzzle in his mouth, and with his foot in the loop fired the gun off.

Dr. H. T. Percy, U. S. Navy, who was the patient's immediate medical attendant, on examining the mouth found a penetrating wound in the median line of the roof of the mouth, $1\frac{1}{4}$ inch in length, involving the hard and soft palates and extending through the posterior portion of the septum narium. The four upper incisor teeth had been knocked out and the gums back of their

alveoli torn up for the distance of $\frac{3}{8}$ of an inch; the dorsum of the tongue was slightly lacerated. As he had already been probed, without success, and hæmorrhage was feared, because of the proximity of the wound to the internal carotid arteries, the probing was not then repeated. There was not a symptom indicating injury involving the brain at this time, nor for twelve days more, so it was supposed that the bullets must have been stopped by the thick bone of the basilar process of the occipital, the amount of powder used having been too small to drive the lead through. The oozing of blood had now become slight, his respiration remained labored, phonation very imperfect, mind fairly rational, but a little cloudy. At 3 o'clock, P.M., reaction was progressing slowly, hæmorrhage under control; considerable trouble in swallowing, the food passing up into his nose; a good deal of œdema of the soft palate; can only speak in a whisper.

Treatment of a sustaining character; milk and whiskey given both by the mouth and by enema, ice kept in his mouth to retard local inflammation, as œdema of the glottis was feared. The wet condition of mouth and throat, however, had prevented much burning from the sudden flame, just as one can place a wet hand in a flame for an instant with impunity. I am surprised that the excitement of committing suicide did not dry up his salivary glands, as we know the emotion of fear will do, but perhaps he was not afraid; at all events his tissues did not appear to be much damaged by fire and the œdema of the velum pendulum palati was due to the contusion and wounds caused by the explosion and the projectiles. In the evening his temperature was taken and found to be normal.

December 17th. Patient passed a restless night; deglutition very difficult, respiration labored, owing to swelling of the soft tissues around the glottis. Mouth and nose sprayed with solution of boracic acid; hot flannels to outside of throat; ice in mouth; morphia sulph. hypodermically *pro re nata*; diet: milk, eggs, and milk-punch. Evening: temperature 99.4° F.; he had quinia sulph., 0.60, at 4 o'clock, P.M.

December 18th. Rested better last night; less difficulty in swallowing and breathing; discharge from nose and mouth very offensive, for which used solution of sodii chlorinate, with sponge and atomizer. Apparently doing well, continue general treatment already indicated as to diet and medicines.

December 20th. Morning temperature 101.8° F. Evening temperature 103° F. In other respects the patient appears to be doing well. He swallows with ease, respiration not materially affected, mind clear, speech improved; considerable offensive discharge from the nose. Treatment: supporting; cleansing and disinfection of the wound and its vicinity; ice *ad libitum*, as he is fond of

it, and morphia sulph. hypodermically *pro re nata*.

December 25th. Doing well, apparently; range of temperature has been from 99.6° to 101.6° F. Discharge from mouth diminished, but still offensive, and smells like necrosed bone; the wound of soft parts of the palate has a healthy look, the slough having been thrown off; the wound of tongue and gum healing kindly; tongue coated with a brownish fur; fever, of septic origin, continues. Continue general treatment as before.

December 28th. Condition about the same; fever higher at times than at last entry; palate wound not looking so well; when the wound was dressed this morning a small piece of bone was removed, supposed to be from the horizontal plates of the two palate bones. To-day he complains of headache, so we may date his brain symptoms from this time, as they did not again leave him. Continue general treatment and apply ice-bag to occipital region; he has had quinia sulph. at various times for his septic fever, and symptoms have been met as they arose with appropriate treatment, *all* of which it is not considered necessary to fill this paper with.

December 30th. Little change in the patient's condition since the last entry; he seems to be growing weaker, there is more hebetude, palate wound looks unhealthy, with no tendency towards healing, the bone is denuded within reach of the probe; and attempts to examine the wound by means of reflected light by way of the mouth have failed, because the patient is too weak to stand enough manipulation for the purpose, and his mouth is partially closed in a tetanic manner. Diet: milk, milk-punch, and egg-nog. Morphia sulph. hypodermically, *pro re nata*, and quinia sulph. 0.30 ter in die. Cleansing the wound is now difficult, as he swallows all the liquids used, as well as his own foul discharges.

January 1st. Hebetude marked; right arm paralyzed; patient failing; he still takes plenty of nourishment and swallows freely; voice indistinct.

January 2. Losing power over the muscles of both sides; he cannot move arms or legs; has lost control of bladder and sphincter ani. He lies in bed perfectly helpless, but can be aroused and made to speak intelligently, but with difficulty; deglutition difficult. It is not easy to cleanse the wound, because he cannot spit at all and swallows the cleansing liquids and all they carry away with them. He still complains of headache. At a consultation to-day, between Dr. H. T. Percy and myself, the wound was probed for the bullets with a Nélaton porcelain-tipped probe, and though we thought we felt one we were not quite sure, and the mark of lead on the probe was not distinct. I now believed the balls to be in the body of the sphenoid bone, but this has since been found to have been a mistake, as

they were discovered after death in the basilar process of the occipital bone, at and *below* its junction with the sphenoid bone. Thinking that the lead was imbedded in necrosed walls of the sphenoidal cells we decided that we would not be justified in attempting to remove them from this dangerous site at this time, when nothing seemed likely to offer a chance of saving him, and any violence would probably kill him while he was undergoing the operation of removal. I wish to say, however, that of late years bullets remaining in the body have been regarded as too harmless altogether, and probing has been given too bad a name since counsel for murderers have learned to make the plea that probing kills their clients' victims, instead of the assassin's ball itself; a happy mean will probably correct both errors. While the patient under consideration was doing very well, we awaited some natural evidence of the location of the bullets as sloughing and exfoliation should proceed, hoping to remove them in good time, or to let them become encysted, and thus harmless. When the symptoms did come on, which showed that the lead was in a situation to do harm to vital parts, they appeared suddenly, and were of such a character that we became convinced no good could then be accomplished by trying to remove the foreign bodies from the neighborhood of important parts, with more or less violence. The diagnosis of meningitis from caries of the sella turcica, due to fracture of that portion of bone by the bullets, was made out at the consultation above mentioned, and then believed.

January 3. Patient sinking slowly; he lies in a comatose state, but can swallow food of a liquid character and stimulants. Respiration principally diaphragmatic, as the intercostal muscles are paralyzed to a great extent. Discharge from nose very slight.

January 4. Failing gradually, no other change to note.

January 5. He appeared to recognize Dr. H. T. Percy this morning when he addressed him decidedly, but lapsed into unconsciousness at once. Temperature 104° F., respirations 60 per minute, pulse 160 per minute; swallows with increasing difficulty.

January 6. Patient lies in a state of profound coma, respirations about 60, stertorous and growing shallow; temp. 102° F., pulse 160 to 180, and very weak. Fed by stimulating nutritious enemata, as he can no longer swallow. 9 o'clock P.M., failing rapidly, no pulse at wrist. Temp. 103° F.

January 7. Patient died at 2:05 o'clock A.M. Temp. at death 103° F. At 2 o'clock P.M. the autopsy was held by Dr. Percy, U. S. Navy, in the presence of Dr. J. Kerr, of this city, Drs. Woolverton and Nash, U. S. Navy, and myself. Eleven hours and fifty-five minutes after death, rigor mortis well established. Body much emaciated, marks of turpentine stupes on chest, they

having been used because of dyspnoea and signs of pulmonary affection; one mark of a small abscess on left arm from a hypodermatic injection.

In the centre of the roof of the mouth, extending antero-posteriorly, is an opening about $1\frac{1}{4}$ inch long by $\frac{3}{8}$ to $\frac{1}{2}$ inch wide, involving about $\frac{3}{4}$ inch of the bony palate and $\frac{1}{2}$ inch of the soft palate; about $\frac{1}{2}$ inch of the posterior portion of the septum narium is gone. The four upper incisors are gone, and the gum is found to be detached from their alveoli. On removal of the calvarium slight adhesions of the dura mater of the left side above the middle fossa were found; from this site pus flowed when the skull-cap was removed. When the brain was removed about $1\frac{1}{2}$ ozs. of clear fluid escaped from the spinal canal. Dura mater normal except over left middle fossa, where it was found congested, and had been detached from the bone at one portion by the burrowing of about $\frac{1}{2}$ oz. of pus, which had found its way from the basilar process and flowed to the left side across the middle fossa and to some distance up the left side of the parietal bone. The membrane over the basilar process was gangrenous; it had a bluish-black color, a foul odor, and was bulged out from its normal position.

The basilar process was found to be fractured and necrosed, and it crumbled under the knife like paper; it was dark-brown and had a very bad odor. On digging into it one ball was found, much flattened in shape, and just under it another, less disfigured. The third ball was almost of normal shape and was found a little lower down than the second one, and on the outside of the basilar process of the occipital bone, below its articular surface for the sphenoid bone. The odor in the vicinity of the inner surface of the basilar bone was that of caries, and the neighboring tissues were broken down and bathed in pus. The adjacent surfaces of the pons varolii and medulla oblongata, as well as their left sides, were covered with pus. The pia mater was intensely congested, but the brain tissue appeared to be normal on being sliced up. The ventricles had less fluid than is usually found in them. Death was due to exhaustion dependent upon general paralysis, which was caused by meningitis following necrosis of the basilar process from the gunshot wound.

The three bullets are herewith presented, as well as a cartridge such as he used, and it is still loaded; also an empty one, and the powder removed from it, 5 grs. in weight; also an unused bullet, which is $\frac{3}{8}$ inch in diameter and weighs 138 grs. avoirdupois. The three balls our patient used had a weight of 1 oz. avoirdupois in all. A service charge in one of these cartridges contains 72 grs. of powder and 138 grs. of lead; and a marine who fired one into his mouth during the last war "blew the whole top of his head off," in the words of my informant.

American Laryngological Association.

Eleventh Annual Congress, held in Washington, D. C., May 30, 31, and June 1, 1880.
(Concluded from page 851.)

SECOND DAY.—MORNING SESSION.

DR. T. AMORY DE BLOIS, of Boston read a paper describing

SOME OF THE MANIFESTATIONS OF SYPHILIS OF THE UPPER AIR PASSAGES,

and exhibited drawings showing the conditions which he had found.

DR. F. H. BOSWORTH, of New York, referred to the necrosis of bone which occurs in syphilitic ulcerations. He did not believe that syphilitic ulcerations extended from one part to an adjacent part. Such ulceration is due to the breaking down of a gummatous deposit, and does not extend beyond the limits of the original gummatous deposit. The necrosis of the bone he held to be due to the interference with nutrition of the bone caused by the original deposit, and that after the breaking down of the gummatous infiltration has taken place, the ulceration is kept up by the necrosed bone, and treatment should therefore be directed to this point. He agreed with the reader of the paper that potassium iodide was to be employed until the disappearance of the lesion, and that mercury should be used subsequently. Operative interference should be postponed until the syphilitic disease was well under control.

DR. C. C. RICE, of New York, said that in these cases there was often cicatrization and contraction above the visible adhesions, so that after the adhesions are freed, the results as regards phonation and respiration are not what would be expected. This contraction in the post nasal pharynx requires to be stretched in order to obtain good results. In regard to operations: in one case where there were adhesions, and where there had been no syphilitic manifestations for many years, he separated the adhesions with the galvano-cautery. The ulceration which followed took on an unfavorable character, and continued to spread despite constitutional and local treatment.

DR. J. N. MACKENZIE, of Baltimore, protested against the too vigorous removal of diseased bone from the nasal passages. It frequently happens that more is pulled out than is desired, and sometimes from dangerous regions.

DR. WM. H. DALY, of Pittsburgh, objected to the use of the galvano-cautery in tissues of the low vitality of syphilitic tissues. He believed that the galvano-cautery was a much-abused useful instrument. He felt satisfied that better results could be obtained in the fauces, in the nose, in the larynx, in any operation by using a sharp cutting instrument, and allowing as free hemorrhage as is consistent with good judgment. The freer the hemorrhage within certain limits, the

more certain is there to be immunity from septicæmia and rapid union.

DR. CHAS. H. KNIGHT, of Boston, read a paper entitled

NOTE ON THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.

This paper was supplementary to one read two years ago. The galvano-cautery can not be satisfactorily used in young children, and in them the guillotine is preferable. In older children and adults the galvano-caustic point will prove of service. The galvano loop was especially considered. With this the operation can be done at one sitting. The portion removed by the loop does not indicate the real extent of the operation. A portion of the remaining tissue sloughs so that the operation with the loop was better than with cutting instruments. There seems to be very little more pain with the galvano-loop than with the guillotine. The former operation is, however, more disagreeable on account of the odor of burning flesh.

DR. T. A. DE BLOIS, of Boston, had used the electrolytic needle with good effect. Under cocaine, pain of the procedure is very slight. Half a dozen punctures each day will in a short time produce great diminution. This method is used only in adults. In children, the tonsils are very apt to diminish in size without treatment.

DR. C. E. SAJOURS, of Philadelphia, had frequently used the galvano point, but had to make as many as eighteen or twenty punctures in order to obtain satisfactory results. After the second visit the patient expresses very little objection to the operation. The galvano point is useful in the treatment of enlarged tonsils, especially where the density is not great. Here the cicatricial contraction assists in reducing the size.

DR. W. H. DALY, of Pittsburgh, believed that in the normal throat no portion of the tonsil extended beyond the line of the half arches, and in abscision of the tonsil our object should be to restore the throat as nearly as possible to its normal condition. This cannot be thoroughly done with the tonsilotome, but the operation must be completed with the forceps and bistoury.

DR. F. H. BOSWORTH, of New York, could see no reason for treating this condition by means of 18-20 punctures, when the whole trouble could be removed in a few seconds by a very simple operation.

DR. C. C. RICE, of New York, believed that there are few cases in adults where have been frequent attacks of tonsillitis, and the tonsils are greatly congested, where the galvano-cautery is of service.

DR. JOHN O. ROE, of Rochester, read a paper on
THE TREATMENT OF DISEASED TONSILS WHEN
UNATTENDED WITH HYPERTROPHY.

The conditions referred to are of marked clini-

cal importance, but their consideration is ignored by writers upon these subjects. The most common form of the disease of the tonsil is hypertrophy, and in children it is rare to find any other form. During adolescence the tonsils may diminish in size, but they do not return to their normal condition. The small tonsils in adults have often followed hypertrophy. This is a point in favor of the removal of enlarged tonsils. The two forms of disease of the tonsil to which attention was called, were, first, chronic disease of the crypts and lacunæ, and, second, fibroid degeneration of the stroma of the organ, the cicatricial form of the disease. The first is the result of chronic follicular catarrh of the tonsil, and is usually associated with chronic follicular catarrh of the pharynx. The treatment of these conditions is important, not only on account of the disease itself, but also because they are the source of recurrent trouble; and may cause reflex symptoms. Local applications are practically useless. The galvano-cautery, which is useful in the treatment of hypertrophied tonsil, may be employed here, but it is not as efficient as it is in the former condition. The treatment *par excellence* is ablation with the knife. The diseased crypts may be laid open and cauterized with chromic acid, or fused with nitrate of silver. Excision is, however, the best plan. It is rarely advisable to attempt removal of the whole mass at one time on account of the adhesions to the pillars. The use of cocaine lessens pain and hæmorrhage. In every instance in which the speaker had employed excision the cure had been perfect, with entire relief from the attendant symptoms.

DR. H. L. SWAIN, of New Haven, reported a case in which recurrent attacks of swelling of the lingual tonsil were caused by the presence of hard masses in the faucial tonsil. The attacks were subdued by treatment of the crypts, by cutting into them with the galvano-cautery, and thoroughly cauterizing their interior.

DR. J. SOLIS-COHEN, of Philadelphia, had seen many cases of spasmodic cough due to nothing but the presence of these masses in the crypts and lacunæ of the tonsil. These had been found not only in enlarged but also in apparently contracted tonsils. It is sometimes necessary to produce some gagging, so that the posterior portion of the tonsil presents, in order to discover this condition. In enlarged tonsil, the best treatment is probably excision, but in these atrophied tonsils he had pressed the matter out with a blunt scoop, and then applied a simple astringent, consisting of creosote gr. j, iodine gr. j, potassi iodide gr. v to glycerine 5j. If this does not answer, he cuts the crypt open with scissors, and scrapes them as thoroughly as possible. This affection is not as thoroughly appreciated by the profession as it should be. He had seen cases where cough existing for five, ten, or more years had been per-

manently relieved by treating this condition.

DR. WM. H. DALY, of Pittsburgh, referred to cases in which the patients were really sick, as the result of these lacunæ becoming filled with cheesy matter.

DR. F. I. KNIGHT, of Boston, described a case of long-continued irritative cough, in which the removal of a cretaceous mass as large as a pea from a crypt of the tonsil was followed by complete cure.

DR. SAMUEL JOHNSTON, of Baltimore, referred to three cases in which the collection, instead of consisting of soft, cheesy material, was hard, looking like spirales of bone, and adhered with great intensity. These bodies were not limited to the tonsil, but were also found on the lower part of the fauces and on the post pharyngeal wall.

DR. HARRISON ALLEN, of Philadelphia, stated that he had referred to this condition in a paper published in 1882. The solid matter is retained in the crypts. This pressure is often produced by the anterior fold. Sometimes the secretion has gotten out of the tonsil, but is still retained behind the fold. More frequently these masses are beneath the tonsil, under an adventitious membrane.

DR. J. SOLIS-COHEN, of Philadelphia, reported a case of

SARCOMA OF THE THYROID GLAND.

The case was one of sarcoma of the thyroid gland, with pressure on the right sympathetic nerve; unilatent tonic spasm of the laryngeal muscles; intermittent clonic spasm of the muscles of the opposite side: There was stenosis from the pressure of the tumor. For this tracheotomy was performed. This afforded relief for a number of months. Hæmorrhage occurred twenty months later, but was controlled without much difficulty. Gradually marked disturbance of the two pneumogastries supervened, and there was great interference with respiration. It was accidentally discovered that any irritation of the mucous membrane of the trachea would relieve the dyspnoea, and at once the lividity of the face would disappear. This effect was readily produced by touching the posterior wall of the trachea with a bent wire, passed through the tracheotomy tube. The patient died of exhaustion.

THIRD DAY—MORNING SESSION.

DR. C. C. RICE, of New York, read a paper on SOME UNUSUAL MANIFESTATIONS OF TUBERCULOSIS OF THE LARYNX.

The first unusual manifestation referred to was where syphilis and tuberculosis of the larynx co-exist. Here the lesions of one process mark those of the other. Here the prognosis depends upon which is the more active condition. This combination is more common than is generally supposed, and probably some cases of cure of sup-

posed tuberculosis should be placed under this head. A second unusual manifestation is the engrafting on the tuberculous process of a new tissue rendering the diagnosis difficult. This new tissue may be of two forms, either a granulation tissue, or a papillomatous growth. The third condition was adhesive inflammation at the anterior ends of the vocal bands. This must be rare, as the tubercular process shows little tendency to cicatrization and healing. It is liable to occur only when the cords are immovable, and there is general proliferation of tissue. The last condition referred to was one in which the tubercular deposit in one arytenoid was the only manifestation of the disease in the larynx, the remaining parts of the larynx being perfectly normal.

DR. WM. H. DALY, of Pittsburgh, was satisfied from his experience in three or four cases, that in some instances tubercular ulceration of the larynx may be cured. In these cases there was no evidence of syphilitic disease, and in at least some of them, the tubercle bacilli were found. Recovery has followed the use of alkaline sprays and inhalations, with the free use of iodoform. He believed that tuberculous ulceration of the larynx might occur without evidences of tubercular deposit elsewhere.

DR. J. C. MULHALL, of St. Louis, thought that there might be a catarrhal ulceration of the larynx, and that this was a curable condition. He did not think it would be easy to prove that tubercular disease of the larynx was ever primary, although it is sometimes the first sign of the condition. In tubercular ulceration of the larynx he had used pure lactic acid, and had seen the ulceration heal, but he could not say that he had ever seen life prolonged to any appreciable extent.

DR. F. I. KNIGHT, of Boston, had not the slightest doubt that tubercular ulceration of the larynx does get well. He had seen such ulcers heal under alkaline sprays and iodoform, and more especially under lactic acid. He thought that it was possible to have the tubercular disease of the larynx as a primary affection, but in the the majority of cases careful examination will reveal evidences of disease of the lung. He did not regard changes in the respiratory murmur and in respiration as the most important signs of early phthisis. He placed more reliance upon the localized râles which are heard on coughing. In order to develop this sign the patient should not inspire immediately before or after the cough, but should cough after a rest. He had seen but a few cases in which he regarded the disease as primary in the larynx.

DR. W. E. CASSELBERRY, of Chicago, reported a case in which he found catarrhal ulceration of the larynx. These readily healed under cleansing treatment, and there has been no return of the ulceration during a period of two years.

DR. J. N. MACKENZIE, of Baltimore, thought

that the question of the possibility of the existence of primary tubercular disease of the larynx had been settled by examinations upon the post-mortem table, where, in a few cases, careful examination of the body revealed tubercular deposit, nowhere but in the larynx. While a tubercular ulceration of the larynx may heal, this by no means indicates the cure of the disease. I have seen the co-existence of syphilis and tuberculosis in the larynx several times, and it is difficult to say which is the syphilitic and which is the tubercular ulceration. The only test is that of treatment. He had never seen what could be called catarrhal ulceration of the larynx. In regard to treatment he thought that more harm than good was produced by the employment of harsh measures. There is a form of ulceration which occurs in the later stages of phthisis, principally near the bifurcation of the trachea, which is probably due to the corrosive action of the sputa.

DR. W. C. GLASGOW, of St. Louis, believed that tubercular ulcers of the larynx were never healed. He had seen cases of ulceration of the larynx heal under treatment, but he did not consider these to be true tubercular ulcerations. These have healed under simple treatment. He had used with great satisfaction during the past two years the peroxide of hydrogen in the treatment of such ulcerations, and under its use there is rapid healing. He did not believe in primary tubercular disease of the larynx. In all the cases that he had seen, there had been more or less disease of the lungs. In true miliary tuberculosis of the larynx he had always found some evidence of disease in the lung, and these cases, he thought, never recovered. He had seen cases of catarrhal ulceration of the larynx.

DR. S. SOLIS-COHEN, of Philadelphia, read a paper on

THE OCCASIONAL TOPICAL USE OF SOLUTIONS OF NITRATE OF SILVER IN THE TREATMENT OF CHRONIC LARYNGITIS.

The cases reported were not due to nasal disease or obstruction; nor were they those in which all topical treatment is unnecessary. Where indigestion, constitutional disease or diathesis have been present, these have received due attention. It was simply of topical applications for the relief of local conditions that he spoke. All have encountered cases of chronic laryngitis, especially in singers, clergymen, lawyers, etc., in which, after all discoverable sources of irritation, local or general, have been removed and approved topical treatment, suited to the individual case, has been faithfully tried for a longer or shorter time, improvement takes place to a certain point and then stops. Perhaps all visible evidences of disease, except an irregular, pinkish striping of the vocal bands have disappeared, or perhaps there would be a faint uniform coloration or may

be only a loss of lustre; but something there would be that persisted and that prevented the patient from resuming with comfort full use of the voice in singing or speaking, or perhaps even in ordinary conversation.

It is in such conditions as these; the last obstinate remnants of the disease, that he had derived considerable satisfaction from the topical use, by sponge, cotton wool or brush, of weak solutions of silver nitrate, about 10 grs. to the ounce, applications being made every day for some two or three days, until some congestive reaction is produced; after that at longer intervals. In the course of treatment, too, in some cases, before reaching the last stage above described, I have found recovery apparently hastened by occasionally substituting stronger solutions of silver nitrate, 40 to 60 grs. to the ounce, for the iodized glycerine, tannin, tar or other routine application. A visible increase in congestion immediately follows the use of the silver solution, but this passes off quickly, and at the next visit great improvement is usually manifested. These applications are made once in about two or three weeks according to circumstances.

DR. C. E. BEAN, of St. Paul, described two cases of

*TUBERCULOSIS OF THE TONGUE,

one in a male and the other in a female. In both the disease had made extensive progress when they came under observation, and no operative measures seemed warrantable. In both there was well-marked involvement of the lungs. Death occurred in both cases a short time later. Attention was called to the differential diagnosis between tuberculosis, carcinoma and syphilis. Carcinoma is to be excluded by the absence of glandular enlargement and of the lancinating pains peculiar to that disease. The question of syphilis can only be determined by the history and by the effect of antisyphilitic remedies.

DR. J. C. MULLHALL, of St. Louis, read a paper on

THE LOCAL TREATMENT OF DIPHTHERIA.

The method of treatment which he suggested was based upon the following considerations: 1. That diphtheria is a germ disease. 2. That the specific microbe, in the majority of cases, selects the tonsils. 3. That unless checked by treatment, the colonization of these germs results in local putrefactive changes with subsequent involvement of the general system. 4. That implication of the larynx or of the nasal passages increases the mortality. 5. That the disease is acutely adynamic. It had occurred to him that in this disease it would be better to wash out the throat than to spray it. This is accomplished by means of an ordinary syringe, and in this way the throat can be washed out without difficulty. The patient should be kept in the recumbent position,

the head being brought to the edge of the bed. This procedure is repeated every hour during the day, and at no time is a longer period than three hours allowed to elapse. The only solution that he has used has been carbolic acid with compound solutions of iodine. The water is frequently saturated with boracic acid.

The post-nasal space requires careful attention. In every case of diphtheria the nasal cavities should be kept sterile from the first. Where it is certain that the nasal cavities are not affected, the insufflation of a non-irritating, antiseptic powder may be sufficient. Where there is uncertainty or where it is certain that infection has taken place, the nasal cavities are to be washed out with a weaker solution of the same kind, not more than a teaspoonful for each nostril. For this purpose he recommended a small glass syringe with a bulbous extremity to prevent injury to the nose. After cleansing he frequently resorts to solvents, and has obtained the best results with papoid. In laryngeal diphtheria, inhalation is the only practicable method. The inhalation of the vapor from slacking lime should not be forgotten. In several cases of laryngeal diphtheria he had obtained good results by placing the patient in a small room which had been fumigated with sulphur, and by keeping water to which has been added pine tar and turpentine constantly at the boiling point.

DR. W. C. GLASGOW, of St. Louis, believed that diphtheria is a blood disease rather than a local affection, and that the only objects in local treatment are cleanliness, disinfection and loosening of the membrane. One remedy he had used with advantage was the peroxide of hydrogen by spray. It seems to act by lifting up the membrane by the formation of gas. He considered the constitutional treatment as of the most importance, and he thought the bichloride of mercury and benzoate of soda were the most successful remedies. With these he uses very simple local treatment. In the cases of severe local manifestations the method described by Dr. Mulhall would be valuable.

DR. D. BRYSON DELAVAN, of New York, referred to the value of the bichloride and cyanide of mercury, which he had used for ten years in the treatment of diphtheria.

DR. W. H. DALEY, of Pittsburg, had on previous occasions recommended the use of calomel in the treatment of this affection, and he thought that it was as efficient as a local agent as it was active as a constitutional remedy. He believed that calomel in large and frequently repeated doses—2, 3, 4 or 5 grs. to children 1½ to 2 years of age—exerted a valuable therapeutic effect. He thought that a large part of the effect was from the local action upon the diphtheritic poison.

DR. HARRISON ALLEN, of Philadelphia, referred to the value of trypsin as a solvent for the diphtheritic membrane.

DR. F. WHITEHILL HINKEL, of Buffalo, read a paper on

SOME MANIFESTATIONS OF LITHÆMIA IN THE UPPER AIR PASSAGES.

The influence of lithæmia and allied conditions upon the upper air passages has received little attention in laryngology, as is shown by the scanty literature extant upon the subject. There is a distinction to be made between distinctly gouty sore throat and that due to lithæmia or some allied condition. The subjects of the latter may never have attacks of true gout, nor irregular manifestations of it—indeed, as a rule, they are not so affected. The term lithæmia is elastic in its application to cases varying from extreme digestive and nervous disturbance to almost normal health; consequently its manifestations in the upper air passages are not sharply distinguished, nor are they typical or pathognomonic. One of the most characteristic manifestations is a patchy or streaked irregular congestion of the mucous membrane of the larynx and pharynx. In the former case a dry explosive cough accompanies, in the latter uneasiness or positive pain is referred to the side of the throat, occasionally extending to the ears. These cases are notably irritated and made worse by stimulant applications. Local sedatives and general antilithic treatment give the best results. Occasionally acute naso-pharyngeal catarrh is a manifestation of an exacerbation of the lithæmic tendency. Alkaline and diluent medication with proper diet give more relief than local treatment. Obstinate relaxation of the nervous plexuses of the turbinated bodies in some individuals appears associated with lithæmia. Such cases stand operative—caustic—applications badly and receive little or no benefit from them. Some of these cases are much improved by antilithics and general hygiene. Others are intractable on account of uncontrollable lithæmic tendencies.

After electing the officers for the ensuing year (see p. 847) the Association adjourned to meet in Baltimore, the time of meeting to be determined by the Council.

DOMESTIC CORRESPONDENCE.

The Johnstown Disaster—An Appeal from Dr. Irving C. Blaisdell.

Dear Sir:—As a member of the Cambria Medical Society, as well as a member of the American Medical Association, I will report to you the loss of our Society so far as has been positively ascertained up to this date, although some other member may have already reported to you.

Dr. J. C. Wilson, of Conemaugh, an excellent Christian gentleman and for many years well-known in this county, was with his wife and

adopted daughter and one servant girl, with home and everything pertaining to it, swept away, nothing remaining to even mark the place of a once happy home. Next is Dr. G. C. Brinkey, of Johnstown, a very able and promising young doctor, a former secretary of Cambria Society. The third is Dr. M. W. Marbourg, of Johnstown, who had been in practice for many years, occupying the same office with his wife, Dr. Esther L. Marbourg, and who was well known in this section of country, and stood high as doctor, Christian and friend. His death was first reported to me by his wife, Dr. Esther Marbourg, on the Sunday following the flood. It was on the main street of Johnstown, but how different from its former self. The street was packed 30 feet high with every manner of débris, even to a steam engine that had been carried for miles as easily as though it was a block of wood. Cambria Medical Society was represented at the Chicago meeting by Dr. Esther Marbourg, and she is a member of the American Medical Association.

The doctors of Johnstown have lost heavily, not only in lives of friends, but property. One very worthy doctor and wife on the Sunday following the flood, while assisting in alleviating the wants and sufferings of others had nothing left for themselves except the clothing on their persons and a few dollars in the pocket of the doctor, which he generously divided with a brother doctor, left in the same condition, and who a few hours previous, had been counted wealthy, and so on. These are only two incidents among many that chanced to come under my notice.

I trust the loss and sufferings of the doctors of unhappy Johnstown will be brought before the Association when they shall have met in Newport. Very truly,

IRVING C. BLAISDELL, M.D.

Wilmore, Cambria Co., Pa., June 12, 1889.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Fifth Annual Meeting of the Fifth District Branch of the New York State Medical Association—The President, Prof. Wm. T. Lusk, delivers an admirable Address, in which he treats principally on the subject of Rupture of the Uterus and its Prevention and Treatment—Dr. T. M. Manley, of New York, on the Genesis of Tumors—Dr. F. E. Martindale, of Staten Island, reports a Case of Calcification of the Cardiac Left Ventricular Wall—Dr. T. H. Allen, of New York, on Traumatic Pelvic Cellulitis—Dr. J. G. Truax, of New York, on The Treatment of Acute Lobar Pneumonia—Discussion thereon by Drs. Alfred L. Carroll, E. R. Squibb, S. J. Murray and C. S. Wood.

The fifth annual meeting of the Fifth District Branch of the New York State Medical Association

tion, recently held in Brooklyn, was characterized by much good scientific work. In his opening address the President, Professor Wm. T. Lusk, congratulated the Branch on its prosperity, and expressed the opinion that the rapid growth in the membership of the Association, the zeal exhibited for the principles for which the organization stands, and the scientific merit of the work performed at these annual gatherings, were all prophetic of a long and useful life.

A considerable portion of the address was devoted to the subject of *Rupture of the Uterus and its Prevention and Treatment*, and coming, as they did, from so distinguished an obstetrical authority, his views were listened to with the deepest attention and interest. The case upon which his remarks were based was one in which the rupture was due to an undilatable condition of the cervix resulting from the presence of cicatricial tissue, and which had never been published. The patient, 33 years of age, was brought late at night to the Emergency Hospital, exhibiting signs of the most severe suffering. Her temperature was 99.5°, her pulse 140, and she was semi-maniacal. This, as far as could be learned, was her second pregnancy. Her first confinement had been a prolonged one, and had been terminated with instruments. The present labor had then lasted about thirty hours. Dr. Lusk was hastily summoned, and on his arrival he found that the membranes had long been ruptured. The uterus was firmly retracted upon the child, whose body was apparently situated in an oblique position with the head directed to the left, and rupture of the uterus seemed imminent. A digital examination showed that no dilatation of the cervix had taken place, and that this fact was due to firm cicatricial tissue situated at the internal os and extending somewhat over the uterine body. With the impending danger of rupture, he decided upon the Cæsarean section; but the woman's cries and importunities to desist at sight of the preparations for the operation led to hesitation, and this hesitation proved fatal.

While the question of operation was under debate she called for a chamber, saying that she wished to pass urine, and when placed upon the vessel began, in spite of every attempt to control her, to make violent straining efforts. Suddenly she fell back unconscious. The pulse was almost imperceptible, and the entire surface of the body became intensely pallid and covered with clammy perspiration. It was evident that uterine rupture had taken place; and the patient, who did not rally, died in about two hours. The autopsy was made by Dr. T. Mitchell Prudden, and he reported that the body of the child was found corresponding to the long axis of the mother's abdomen, with the back directed to the front and the head bent sharply in that direction. There was a considerable quantity of soft red blood-clot in the

abdominal cavity, and the rent in the uterus extended obliquely across the uterus from the upper portion to the right side of the fundus. The os internum was lacerated from the previous labor. The upper portion of the cervical canal was narrowed by dense cicatricial tissue, so that its diameter was about 2 centimetres, and the anatomical diagnosis therefore was: rupture of the uterus, with old, firm cicatricial contraction of the cervix uteri.

The case was rare, Dr. Lusk said, inasmuch as the cicatricial contractions were situated at the internal os and the lower uterine segment. Dilatation by incision or other artificial means was impossible. When cicatrices are limited to the lower part of the canal, as is ordinarily the case, the obstacle to the birth of the child is usually removed by the employment of the knife to sever the constricting bands. Again, the case furnished a new illustration of the fact that in spontaneous rupture the laceration is not of necessity confined to the thinned lower uterine segment, as has been maintained by some of the extreme partisans of Bandl's theory. He thought that the early employment of the Cæsarean section or the Porro operation would probably have saved the patient's life; although, at the late period of her admission to the hospital, either procedure would have partaken of the nature of a forlorn hope.

He then proceeded to briefly review the usual mechanism of uterine rupture and the means at our disposal for combating the mischief done. Spontaneous rupture during labor, he said, is not so rare an event that those engaged in busy practice can afford to be ignorant of the means of counteracting the tendency to a fatal result with all the resources of modern science. To Bandl belongs the merit of showing that nearly all ruptures begin in the lower uterine segment. In normal labors, during each pain the fundus and body of the uterus thicken, while the lower segment is stretched and thinned by the ovum or the presenting part of the fœtus. So long as no obstacle is met with which hinders the descent of the ovum or the fœtus this process ends in the conversion of the uterus and vagina into a continuous canal. Ordinarily, in advanced labor, the lower circumference of the body is distinguished from the stretched lower segment by a thickened ridge termed the contraction ring or ring of Bandl; though in easy labors this ring is often but slightly indicated.

When, however, the descent of the fœtus is hindered by any cause, the resistance of the ligaments which hold the uterus in position is overcome by the continued retraction of the fundus and body, and, as a consequence, the contraction ring is withdrawn upward, the lower segment is thinned and, in extreme cases, nearly the entire uterine contents may occupy the distended, passive inferior segment. Under these circumstances

the contraction ring is strongly marked, and may be felt through the abdominal walls above the pubis, or even in the neighborhood of the umbilicus. This movement upward of the contraction ring is limited somewhat by the pelvic and round ligaments and by the direction downward of the abdominal pressure; and, as these restraining agents operate more efficiently in first than in subsequent labors, it is not difficult to comprehend the relative frequency of rupture in women who have borne many children. As a result of the continued retraction of the body of the uterus, the lower segment may become so distended as to form little more than a membranous covering to the fetus, and the conditions favoring rupture are established. It has been maintained upon theoretical grounds that spontaneous rupture is arrested by the contraction ring, and this is certainly the rule when there has been no art intervention; but the case in question shows that the rule has its exceptions.

Undoubtedly the popularization of Bandl's teachings has contributed greatly toward the adoption of an intelligent prophylaxis in difficult labors. The situation of the contracting ring, which, when well defined, can usually be felt through the abdominal walls, furnishes in many cases an index of the degree of the threatened danger. The risks are further increased in cross births, in hydrocephalus of the child, and in lateral and anterior displacements of the uterus, owing to the augmented pressure exerted under such conditions upon a limited portion of the already over-distended tissues. If rupture occurs under these circumstances the accoucheur cannot wash his hands of responsibility. He ought to know that the faulty uterine positions should have been early corrected by judicious bandaging, the hydrocephalic head reduced by puncture, and that, in all forms of obstructed labor, there comes a time when patient waiting ceases to be a virtue and active intervention is demanded. The new learning teaches us that when the uterine efforts have proved unavailing to fix the presenting part, and the increasing distance of the contracting ring from the pelvic brim points surely to a dangerous thinning of the uterine muscle, the physician must promptly decide upon the indicated measures of relief. These, in head presentations, are version, craniotomy and the Cæsarean section. In neglected shoulder presentations only cautious attempts at version are justifiable, and the operator should never forget to support the head with one hand through the abdominal walls in such a way as to relieve the strain upon the over-distended tissues. In case of failure the persistent use of rude force is criminal.

Dr. Lusk stated that he dwelt upon these points for the reason that he did not believe that rupture of the uterus is by any means as rare as statistics would seem to indicate. While, however, insist-

ing upon a rule of personal accountability as regards the accoucheur, he said it was necessary to recognize that to Bandl's scheme there are exceptions. Now and then cases are reported in which primary rupture has occurred in the fundus and in the body, and where the lower segment has given way without antecedent signs or warnings. Having mentioned such a case in his own experience, he went on to say that rupture may be complete or incomplete. In the latter the tear is confined to the muscular structures, and the peritoneum remains intact. In most instances the hæmatoma resulting from the bleeding vessels dissects up the peritoneum for a certain distance beyond the tear. In the complete form the peritoneum likewise gives way, but to a less extent.

When the shock, the sudden stoppage of the uterine pains, the recession of the presenting part, the bloody discharge, the lateral tilting of the fundus, or its apparent disappearance in the case of the passage of the entire child into the abdominal cavity, have led to a diagnosis of rupture, the first indication for treatment is the speedy removal of the child. In selecting the manner for accomplishing this the important consideration to be kept in view is that it shall to the least possible extent increase the dimensions of the rent. In general terms he said it might be stated that with an undilated cervix, or in cases of extreme pelvic contraction, or after the passage of the head and arms through the rupture, and in all cases where the child passes entirely into the abdominal cavity, laparotomy is the more conservative measure. There is not only less shock, but the opening of the abdomen enables the operator to remove effused blood and amniotic fluid from the peritoneal cavity. Still, the not uncommon impression that the ruptured uterus furnishes a promising field for abdominal surgery does not take into account that, in many of the cases where laparotomy is clearly indicated, the patient is practically moribund.

The employment of the suture to close the uterine wound, in view of recent Cæsarean successes, seemed reasonable; but it was to be borne in mind that with ragged borders infiltrated with blood, with the peritoneum stripped off, and sometimes with air infiltrated into the subperitoneal connective tissue, the conditions for version are in no way comparable to those which exist in Cæsarean section. The Porro operation, he thought, promised better results, though the deep situation of the tear would make it difficult to secure a healthy pedicle. There should, however, be no hesitation about suturing the peritoneal surfaces; as the rupture is thus converted into an incomplete one, with its more favorable prognosis.

When the child could be removed by the natural passages without increasing the extent of the rupture, and when the latter was confined to the lower segment, he considered laparotomy of doubt-

ful value. In many such cases recovery, as far as life was concerned, had been secured by the employment of antiseptic irrigation and filling the gap with antiseptic gauze. At the same time drainage should be secured by means of iodoform wicking or the bent rubber tube; both drainage and packing being most effective when the tear is situated in the posterior wall. This plan of treatment is, of course, only useful where no infection of the abdominal cavity has taken place at the time of the rupture, and the best results are obtained, therefore, in cases of complete rupture. At the same time that drainage is used, compression of the fundus and body should be employed by means of the hands through the abdominal walls, and in case of hæmorrhage efficient aid can be furnished by pressure made upon the aorta. Finally, a carefully graduated compress should be placed around the uterus in order to maintain firm contractions. For this purpose he prefers the disc-shaped hydrostatic bag, partially filled with water; and in this condition and in all forms of post-partum hæmorrhage he has found it most effective.

Dr. Lusk also reported for the first time an interesting case of Cæsarean section, which unfortunately terminated fatally. The patient had a contracted pelvis and kyphosis, with an abscess from which there was a large accumulation of pus under the psoas muscle, and he expressed the opinion that if in this instance he had performed the Porro operation, and thus by removing the uterus relieved the pressure upon the intestines and other structures, the patient's life would have been saved.

The first regular paper was an elaborate one by Dr. T. M. Mauley, of New York, on *The Genesis of Tumors*; after which Dr. F. E. Martindale, of Staten Island, read the *Report of a Case of Calcification of the Cardiac left Ventricular Wall, following Subacute Vernicose Endocarditis*. The patient, a man 73 years of age, was suddenly attacked, April 13, 1886, with intense pain in the precordial region, accompanied by cold perspiration and dyspnœa, with a sense of impending dissolution. Dr. Martindale first saw him on April 15, when he made a diagnosis of subacute endocarditis, with circumscribed pericarditis at or near cardiac base. The etiology was obscure, as there was no history of either acute or chronic rheumatism, or nephritis, or of any exanthematous disease since childhood. From a careful inquiry into the previous history of the patient it was learned that in June, 1873, he had had a somewhat similar attack of cardiac trouble, though the exact nature of it could not be ascertained. He improved satisfactorily under treatment, but May 3d there occurred an embolic infarction of the right radial artery, and it was several months before the effects of this entirely passed away. Subsequently the patient had two attacks of marked dyspnœa, with pain in both legs and

œdema of the feet and ankles. By August 1st his general health and the distressing symptoms from which he had been suffering were greatly improved; but the auscultatory signs pointed to a chronic mitral insufficiency, and it was now clear that even should he survive for any length of time, he would labor under a permanent cardiac disability, with more or less remote compensatory hypertrophy and dilatation, and the functional disturbances resulting therefrom. In December œdema of the feet reappeared, and by the following July the œdema had extended to the middle of the thighs and implicated the scrotum and prepuce, while dyspnœa had again become so serious as to render the recumbent position impracticable. By the middle of September the anasarca had become general, and October 23d the patient died from œdema of the lungs.

At the autopsy the apex of the heart was found to be drawn backwards and firmly attached to the middle lobe of the left lung; the adhesions involving the two layers of pericardium and pleura. The left ventricular wall had undergone calcareous degeneration, and was very thin at this point. There was considerable hypertrophy and dilatation, but no valvular lesion was found, with the exception of a single tendinous spot on one of the mitral folds, if that could be regarded as such. The original diagnosis was at fault, therefore, only in attributing the apex murmur to a mitral stenosis, rather than to a roughened and unyielding endocardial surface.

In reviewing the history of this case, Dr. Martindale first put the inquiry, Was the initial attack in 1873 an endo- or pericarditis, and to what degree were either or both attacks concerned as factors in the subsequent calcification? Although the history did not make this apparent, he said, there must have been an etiological factor behind the first attack, since all authorities agree that primary idiopathic pericarditis is of extremely rare occurrence. In regard to primary endocarditis, also, there is absolutely nothing of a positive character known. We were therefore forced to the conclusion that the cardiac disability of 1873 must have had its origin in either a rheumatic or an exanthematous lesion at so early a period in the patient's life that it produced no permanent impression. There could be little doubt, he thought, that the first lesion, in 1873, was a circumscribed pericarditis, with a possible implication, to a limited extent, of the muscular tissue of the heart. Upon a careful examination of the specimen he said it could be seen that the endocardial surface of the calcified ventricular wall was smooth and polished, while the myocardium was the chief seat of the calcareous deposit; which further tended to substantiate the view that the disability of 1873 started as a pericarditis, but that the myo- and endocardium were not seriously implicated until the recurrence of 1886; for it

was hardly possible that the pathological conditions of the latter date could have existed thirteen years without any subjective symptoms.

For the embolic infarction of the radial artery he said there was needed no more reasonable hypothesis (assuming the myocardial lesion existing at this period to have been a sequence of the secondary pericarditis of 1873), than that the left ventricular pericardium was at this time attached by circumscribed adhesions to the left pleura; its contractile power being restricted not only by this, but by the gradual degeneration of the cardiac muscular tissue as well. The blood current through the left ventricle must have been churned, as it were, by the irregular and imperfect contraction of its normal muscular fibres upon the dense and non-contractile myocardial wall; and from this resulted, no doubt, the formation of a small coagulum and its subsequent location at the seat of radial infarction. As to the possible agency of sepsis in the causation of cardiac embolism, as illustrated in this case, Dr. Martindale, after referring to several modern authorities, stated his conviction that it was clear that nothing positive could be affirmed regarding sepsis as an etiological factor in the remarkable tissue metamorphosis observed in this specimen.

The last paper of the morning session was by Dr. T. H. Allen, of New York, on *Traumatic Pelvic Cellulitis*. This cellulitis, he said, was always associated with a unilateral or bilateral laceration of the neck of the uterus, and much more frequently with the former, because this was almost always deeper than the bilateral tear. He did not believe that in every case of laceration the involution of the uterus is arrested, but numerous examples of subinvolution associated with laceration had led him to consider the relation of cause and effect to be positive and direct.

Having reported in detail six cases in which he had performed the operation of trachelorrhaphy with very successful results, he went on to say that it should not be inferred from these that he was prone to operate in laceration complicated with cellulitis. This he would do only in exceptional instances. The opinion of the best gynecologists, he believed, was expressed in the following extract from a paper read by Dr. C. C. Lee, in 1881: "When any decided inflammation exists about the uterus, or so long as any tenderness can be detected in the neighboring connective tissue, it is unsafe to operate." Dr. Bache Emmet, in an article in "The American System of Gynecology," had, however, remarked: "In other cases the indurated and sensitive angle of laceration will be very marked and easily detected from the first, and in these cases there can be no question as to the necessity of removal of such a foreign body as a cicatrix." In this statement he thought Dr. Emmet had touched the keynote of the treatment; for he believed that this foreign body was the

cause of the coëxisting cellulitis. There was a limited class of cases in which the use of copious intra-vaginal injections of hot water and other well directed local as well as general treatment might improve, but not cure, a coëxisting cellulitis. This class of cases broadened the field for trachelorrhaphy, and to it Dr. Allen said he had given the designation "traumatic pelvic cellulitis," to distinguish it from the more diffuse form of pelvic inflammation. It was primarily caused by a wound—a tear—and nature in her unassisted efforts to repair the loss of continuity in the uterine neck built up a structure histologically different from the adjacent tissue, which operated in the same way as a foreign body. The operation of trachelorrhaphy removed the cicatricial tissue and completed the sphincteric arc of the circle with tissue identical in character; while it also had the effect of relieving, by the bleeding caused by it, the congested blood-vessels and lymphatics, and of imparting a new impulse to the process of nutrition. In concluding, Dr. Allen recapitulated his points in the following propositions:

1. Lacerations of the cervix uteri may result in the formation of cicatricial tissue, which produces chronic traumatic pelvic cellulitis.
2. In a limited number of these cases local or general treatment, or both, will not subdue this inflammation and pain.
3. Such treatment having failed, trachelorrhaphy may be performed successfully.
4. The dense mass of cicatricial tissue operates similarly to a foreign body, and its removal by Emmet's operation is a logical remedy which precludes the possibility of its reformation.

At the afternoon session Dr. J. A. Wyeth gave an analysis, with comments, of a number of important surgical cases recently treated by him. They comprised suprapubic lithotomy and other operations upon the bladder, ligation of arteries for various conditions, amputations, and resections of the knee-joint. In regard to suprapubic lithotomy, he said that after a career of varying fortune, in which it was at some times unduly lauded and at others entirely abandoned, he believed this operation had now attained a secure position which, on account of the improved facilities at the command of the modern surgeon, it would maintain permanently in the future. He also mentioned the various conditions in which it was applicable and in which it was, in his opinion, decidedly preferable to perineal section.

After some discussion of Dr. Wyeth's remarks Dr. J. G. Truax read a paper on *The Treatment of Acute Lobar Pneumonia* (see THE JOURNAL of June 29).

Dr. Alfred L. Carroll said that there could be no doubt that in many cases of pneumonia the need of arterial sedatives was manifestly indicated, and of all arterial sedatives venesection was the most powerful. There was, however, in addition

to the two classes of cases mentioned in the paper, a third class in which stimulus was urgently demanded on account of the feebleness of the patient; and which was well represented in the average seamstress of the city, for instance. In the second class mentioned by Dr. Truax there was danger of asphyxia; or, in other words, of the patient's drowning in his own fluid. In such cases he did not think any intelligent physician at the present day was afraid of drawing blood from the arm. The lungs were engorged with blood and the heart's action embarrassed, and venesection did not cure the pneumonia, but simply removed an obstruction. It was not, therefore, to be regarded as a curative; and in many instances other artificial sedatives were sufficient to secure the desired end. When these other sedatives failed it was unquestionably the physician's duty to resort to the lancet. The albuminuria spoken of by Dr. Truax as occurring in many severe cases of pneumonia was an indication of the venous congestion met with everywhere in the system.

Dr. E. R. Squibb inquired whether Dr. Truax had ever used *veratrum viride*, the old substitute for venesection, which often accomplished what venesection would in cases where the latter was inappropriate. He also asked whether Dr. Truax knew that he could get antifebrin (the use of which was advised in the paper) for half the money if he bought it under its other name of acetanilidine. The name antifebrin had been patented simply for the purpose of making money.

Dr. S. J. Murray said that by giving *veratrum viride* in doses of from $\frac{1}{2}$ drop to 2 drops every half hour he had never met with any difficulty in reducing the temperature. He was in the habit of carrying the drug to the extent of producing nausea; when he gave Dover's powder, and afterward stimulus, if it was required. Personally he much preferred *veratrum* to venesection, and he would certainly give it a trial in any case before he resorted to bleeding.

Dr. C. S. Wood said that in former years it was often noted that *veratrum viride* and antimony had a marked effect if they were administered after the patient had been bled, but did not exert their appropriate action if given before venesection. He was firmly convinced that, in the class of cases described by Dr. Truax, there was nothing that could compare in efficiency with bleeding.

In closing the discussion Dr. Truax said that he entirely agreed with Dr. Carroll that in feeble patients stimulants were demanded, and it was his practice to use them freely whenever they seemed indicated. In reply to Dr. Squibb he stated that he had often tried *veratrum viride*, but cases were sometimes met with in which neither it or any other agent would take the place of bleeding.

P. B. P.

The Best Climate for Consumptives.

Dear Sir:—It is with pleasure I have read the recent comments in THE JOURNAL, upon the best climate for consumptive patients, and thinking that perhaps the conclusions arrived at after spending nearly a year in this land of sunshine, may, in their humble way be of interest to some members of the Association, I send them to you.

Albuquerque is situated near the head of the fertile valley of the Rio Grande, is nearly five thousand feet above sea level, surrounded by mountains and highlands, which act as barriers against cold winds and blizzards. The soil is a sandy loam, the water pure and good. There being no station of the signal service here, I am unable to obtain a correct record of the temperature. The nearest station is at Santa Fé, two thousand feet higher, and sixty miles farther north. A fair comparison cannot be made. The winter temperature at Santa Fé and Las Vegas is considerable colder than at this point. Imagine the seasons as you have them in Illinois with the months from November 1 to the last of March taken out, and those remaining extended to fill the gap, with no oppressive heat and hot nights, little rain except in August and September, very few cloudy days, a bracing balmy atmosphere, and you have an Albuquerque climate. Twice during the winter the thermometer registered at zero; only three times has snow fallen in the valley, to melt and disappear in a few hours, except once when it remained a day or two in shady places.

The whole winter with these exceptions, has been like one long eastern October, with just enough frost during the night for a tonic. At this altitude the air is pure and stimulating, free from poisonous germs. There is an abundance of good sunshine, and the cool mountains in which to spend a delightful summer reached by a beautiful drive of twelve miles on the mesa.

The improvement in health of many has been almost miraculous. Those narrow chested individuals with a general debilitated appearance, rarely fail to have their chests expand and become strong and robust, at this altitude. Those who come here, in the first stages of consumption, with but a slight softening of the lung tissue will in all likelihood be cured. Those patients with small cavities in their lungs may be sure of being greatly benefited. Where there is extensive tubercular deposit with a large amount of broken down tissue, length of days may be added to their lives; some seem to regain their strength and live for years.

Those patients with a hæmorrhagic tendency, and those in the last stages of consumption ought not to come into these high altitudes too suddenly; they should be sent around by way of El Paso, Texas; slowly working their way up the valley,

until they have reached a locality, where improved health is assured. Patients who come here for their health must come with the expectation of staying four or five years, if not the remainder of their lives. Many that come, are to all appearance cured or greatly benefited, then go back to their old homes in the east, only to have a relapse, returning to Albuquerque when it is too late.

Climate will not do every thing. Too often those who go away from home in search of health, violate all hygienic rules. I have seen invalids, in the name of exercise do that which would make a strong man weary. I have known young men, in the last stages of consumption, spending their time in "riotous living," after leaving home and dear ones, in search of a new lease of life. The physician's duty does not cease with simply advising their patients to make a change in climate. Lay down rules for them to follow, instructing them to take a moderate amount of outdoor exercise, spending as much of their time in the open air as is consistent, enjoying their winter evenings indoors, at some pleasing occupation or amusements that are not debilitating; tell them to forget self; impress upon them that "care to our coffin adds a nail no doubt, and every grin so merry draws one out."

I am often asked: "What effect does the New Mexico climate have upon rheumatic and other diseases?" The larger proportion who come to this region suffering from rheumatism find a complete cure; a few obtain no relief. My theory now is that those who come from the States along the Great lakes, where the air is laden with moisture, will be greatly benefited by a sojourn here, but those from Kansas, Nebraska and States of a dryer clime will not receive the good expected. My opinion may change with time. Many dyspeptics are cured by coming here. Those who are suffering from the moist form of catarrh find great relief. Cancerous troubles are almost unknown.

CHARLES E. WINSLOW, M.D.

Albuquerque, N. M., May 11, 1889.

NECROLOGY.

Dr. Daniel W. Hand.

Dr. Daniel W. Hand, of St. Paul, Minn., died in that city June 1, in his 55th year, of uræmia. Dr. Hand was born at Cape May Court House on the 18th day of August, 1834. He was a graduate of the University at Lewisburg, Pa., and subsequently graduated in medicine at the University of Pennsylvania with high honors. Dr. Hand went to St. Paul in March, 1857, where he practiced his profession until July, 1861, when he volunteered his services and was appointed assist-

ant surgeon to the 1st Minnesota Regiment; he was afterwards, by examination, appointed Brigade surgeon. At Fair Oaks his horse was shot from under him, and he himself was wounded. May 18, 1863, he was captured and lodged in Libby Prison, was, however, soon exchanged and transferred to Newbern, North Carolina, and for two years from August 11, had charge of the medical department of the State. While medical director he rendered important services during a serious small-pox epidemic, which his quick action and stringent hygienic measures effectually checked.

In the month of September, 1864, yellow fever broke out at Newbern; between September 6, and November 1, over 1,200 citizens perished, including eleven of the assistant surgeons. Dr. Hand alone escaped until the epidemic had almost subsided, when he also was stricken down. His recovery was rather a rapid one, but unfortunately left him with the kidney trouble which was the final cause of his death.

In 1865 he was mustered out of service with the rank of Colonel. He soon returned to St. Paul, where he practiced medicine until his death. His death will be lamented by a large circle of friends and patients. The profession loses in him one of its most prominent members. He was always at the head of any undertaking to better the standing of the profession in his State, was for a long time a member of the State Examining Board, for many years President of the State Board of Health, he had the welfare of the people always at heart. He was a member of the American Medical Association. His many kindnesses to the younger members of the profession, his uniform cordiality to the older, and his professional ability, made him the foremost of the consultants of the State.

Scientific, conscientious, affable, energetic, he was an ideal physician honored and beloved by all.

Dr. Ellen A. Ingersoll.

Ellen A. Ingersoll, M.D., was born in Canton, Ill., April 24, 1844. She attended school in her native city until 1865, when she entered Dio Lewis' school at Lexington, Mass., where her interest in the science of medicine was awakened. Her medical studies were begun in 1872 with the late Dr. G. W. Wright, of Canton, and took her first course of lectures at Keokuk, Ia. She entered the Woman's College at Philadelphia, and graduated March 13, 1874, after which several months were spent in the Woman's Hospital of Philadelphia and in the New England Hospital of Boston as resident physician. She returned to her native city fully equipped for practice, and gained the confidence and respect of her colleagues, as well as that of the community at large.

She never failed to respond to the call of suffering and gave freely of her highest powers in administering to the poor. She became a member of the Illinois State Medical Society in May, 1875, and of the American Medical Association three years later, and was appointed several times to represent the State Society in the annual meetings of the Association, and was a delegate elect to the convention of that body this year, 1889. Some papers of great merit were read by her before the Society, and one year she acceptably filled the chair of Vice-President. On Thanksgiving Day, November 29, 1888, she died from heart failure after a surgical operation.

By the death of Dr. Ellen A. Ingersoll the Illinois State Medical Society and the medical profession have been deprived of a most valued member, one whose devotion to its principles and practice was characterized by the highest regard for professional honor. The medical women have lost one of the most noble and gifted of the sisterhood.

C. S.

BOOK REVIEWS.

DISEASES AND INJURIES OF THE EAR. By CHARLES H. BURNETT, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1889.

This little book of 154 pages is one of a series known as "Practical Lessons in Nursing." It is free from technical terms, and written so as to be perfectly intelligible to the non-professional; containing clear descriptions of the various affections of the ear; their causes, and relations to other diseases, so that they may, if possible, be avoided; but if contracted, their early recognition will prevent experimental and erroneous forms of treatment. Therapeutically its aim has been to show the inexpert what to avoid in the treatment of ear diseases, rather than what they may try to do for their relief. In speaking of diseases of the middle ear, the author has a few good words in regard to the use or rather the abuse of quinine, which is often taken in large doses to abort a "cold in the head." Nothing in fact is more likely to bring on a disease of the ear, which might otherwise escape than large doses of quinine. It causes congestion of the mucous membrane of the middle ear at a time when the predisposition to inflammation in that locality is intensified by the condition already existing. Those portions of work devoted to hygienic management are good.

MISCELLANY.

THE NEWPORT MEETING ENTERTAINMENTS.—Delegates are reminded that the ladies accompanying them

are invited to all the entertainments provided. The afternoon entertainments are intended more especially for the ladies, and those delegates who are chiefly seeking mental rest.

Tuesday Afternoon, June 25.—Excursion to U. S. Torpedo Station, Goat Island. By invitation of the commanding officer, Captain C. F. Goodrich, U. S. N. A practical demonstration of the explosion of torpedoes will be given at 4:30 P.M. Lt. J. C. Wise, Surgeon U. S. N., of the Committee of Arrangements, and Medical Officer of the Station, will introduce the visitors. Government steam launches will leave the ferry wharf at 4 P.M., and every few minutes thereafter.

Tuesday Evening, June 25.—Reception at Music Hall, and Celebration of the 250th Anniversary of the Foundation of Newport, under medical auspices, 8:30 to 11 P.M. Dr. Francis H. Rankin, President of the Newport Medical Society, and Secretary of the Newport Board of Health, will preside. Addresses of welcome will be given by Hon. Thomas Coggeshall, Mayor of Newport, on behalf of the citizens; and Dr. Henry E. Turner, President of the State Board of Health, and Ex-President of the Rhode Island Medical Society, on behalf of the Newport profession. (A brief address had been promised by Hon. Francis Brinley, President of the Newport Sanitary Association, but upon June 14, at the venerable age of 89, he has deceased.) An oration will be delivered upon John Clarke (1609-76), the physician, clergyman and statesman, who procured the charter for Rhode Island from Charles II, in 1663, and who has been immortalized as "The Founder of the Civil Polity of Rhode Island," upon the marble slab erected by the Newport Medical Society, at the Historical Society's Hall, by Hon. William P. Sheffield, late of the U. S. Senate. There will be music by the celebrated Fort Adams band, kindly offered by the commanding officer of the Fort. After the addresses the seats will be cleared away, and an informal reception will be held.

Wednesday Afternoon, June 26.—Excursion to U. S. Naval Training School, Coaster's Island. By invitation of Commander F. J. Higginson, U. S. N., in command of the station, a battalion drill of the boys of the school will be given at 5 P.M., and opportunity to inspect the U. S. training ship "New Hampshire." Lieut. J. L. Neilson, Surgeon U. S. N., of the Committee of Arrangements and medical officer of the station, will introduce the visitors. Government steam launches will leave Commercial wharf, north side, at 4 and 4:30 P.M. Those who prefer, can reach the island by carriages, via the causeway at end of Third St.

Wednesday Evening, June 26.—Vocal and instrumental concert at the Opera House, at 8 P.M., under the direction of Dr. T. A. Kenefick, chairman of the Sub Committee of Entertainments.

Thursday Afternoon, June 27.—Excursion to Fort Adams. By invitation of the commanding officer, Col. John Mendenhall, U. S. A., there will be a light battery drill at 5:30 P.M. Major S. M. Horton, U. S. N., Post Surgeon and of the Committee of Arrangements, will introduce the visitors. Government steam launches will leave Ferry Wharf at 4:30 and 5 P.M. The fort can be reached, if preferred, by carriage.

Thursday Evening, June 27.—Promenade concert, and reception by the Newport profession, at the Ocean House at 8 P.M. Music by the band of U. S. ship "New Hampshire," kindly offered by Commander Higginson, U. S. N., for the occasion.

Friday Afternoon and Evening, June 28.—Excursion upon Narragansett Bay, and clam-bake, at the invitation of the Rhode Island Medical Society. Dr. John W. Mitchell, of Providence, President of the State Society, will receive in behalf of the hosts of the festival, and will bid God-speed to the parting guests.

LAKE COUNTY (ILL.) MEDICAL SOCIETY.—The Sixth Annual Meeting of the Lake County Medical Society was

held Thursday, June 6th, in the Waukegan Court House, the profession of the county being well represented. Dr. Tombaugh, the retiring President, gave an interesting address upon "The Use of Opium in Labor," which was followed by a general discussion. Dr. Carter reported as delegate to the Illinois State Medical Society. The following officers were chosen for the ensuing year: President, Dr. Wm. Sweetland, Highland Park; Vice-President, Dr. F. C. Knight, Libertyville; Secretary, Dr. A. C. Haven, Lake Forest; Treasurer, Dr. Beatrice Pearce, Waukegan. Drs. Beatrice Pearce, Marie F. Barry, J. M. G. Carter and F. C. Knights were chosen to read papers at the next session of the Society, the first Thursday in September.

OBITUARY.—Dr. James Ethelbert Morgan died recently at his residence in Washington, D. C., aged 64 years. Dr. Morgan was a native of St. Mary's County, of the old Maryland family of that name, and was a graduate of Saugston College. Dr. Morgan, shortly after his graduation over forty years ago, settled in South Washington, when that portion of the city was but a few hamlets united only by pathways across the commons, and it may be said he grew up with that section. He represented the old Seventh Ward several years in the Council and served a number of terms on the Board of School Trustees, and was for some time an active member of the old Board of Health. In his office he had as students Dr. C. V. Boorman, Ham, Leech, S. P. Fenwick and others, who succeeded to his South Washington practice when he moved to his late residence on E street, some ten or twelve years since. He also has three sons in the profession.

Dr. Morgan made no pretensions to that kind of charity which is seen of men, but the recipients and his intimate friends know that quietly he did a great deal to relieve suffering outside of his medical duties. Like Dr. Borrows, the deceased took much interest in local military affairs. The doctor was greatly loved, and his death is universally regretted.

DANGERS FROM CONSUMPTIVE FELLOW-TRAVELERS.—In the *Illustrated Med. News*, March, 1889, p. 294, attention is drawn to the danger run from traveling with consumptive patients. There is strong evidence that on board ship it is very easy for husband and wife to communicate the disease to one another. It is even possible for a healthy person to become consumptive if sharing the same cabin as anyone known to have the disease. On board ship there is often a great deficiency of fresh air, and the cabins are badly ventilated, to say nothing of the danger of taking the poison from the upsetting of utensils which contain sputum. The danger of traveling with infected fellow-passengers in a railway carriage or public conveyance may be so infinitesimal as practically to be neglected, yet when one is brought into contact with an infected individual for a considerable length of time, and more especially when the air which the infected and non-infected individuals are forced to breathe is neither large in quantity nor good in quality, the danger is undoubtedly a real one, and it is to be hoped that means will be taken to prevent the spread of so fatal a disease in this manner.

LETTERS RECEIVED.

Dr. J. Edwin Michael, Baltimore; Dr. J. Llewellyn Eliot, Washington; Dr. J. G. Truax, New York; Miss Emma Carter, Waukegan, Ill.; Dr. J. Block, Kansas City; S. M. Horton, Surgeon U. S. A., Fort Adams, R. I.; H. Soule, Ann Arbor, Mich.; Dr. Augustus P. Clarke, Cambridge, Mass.; Dr. L. Bremner, St. Louis, Mo.; Dr. Chas. Stover, Amsterdam, N. Y.; Dr. R. J. Duglison, Philadelphia; Dr. D. J. Bell, Fort Fairfield, Me.; Dr. G. K. Dickenson, Jersey City, N. J.; Dr. J. A. Dibrell, Jr., Little

Rock, Ark.; Dr. R. F. Price, Cleveland, Ohio; Dr. Frank S. Billings, Lincoln, Neb.; Mrs. A. E. Goodwin, Rockford, Ill.; Dr. C. A. Brackett Newport, R. I.; Dr. Geo. E. Hubbard, New York; Singleton, Bonnell & Co., Chicago; Dr. H. N. Buckley, Delhi, N. Y.; Dr. Louis J. Lauterbach, Philadelphia; Dr. S. P. Ziegler, Carlisle, Pa.; Dr. W. S. Leffmann, Philadelphia; Dr. R. C. Stockton Reed, Cincinnati; Dr. T. E. Potter, St. Joseph, Mo.; Dr. A. Guthrie, Cairo, Ill.; Dr. C. L. Knapp, Mt. Vernon, Mo.; W. P. Cleary, New York; M. W. Knight, Melford, Mass.; Dr. H. M. Bracken, Minneapolis; Dr. N. P. Stair, Fort Atkinson, Wis.; Dr. A. B. Sloan, Kansas City, Mo.; Dauchy & Co., New York; Rio Chemical Co., St. Louis; Thos. P. Goode, Buffalo Lithia Springs, Va.; S. S. White Dental Mfg. Co., Philadelphia; Dr. Thos. H. Manley, New York.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from June 8, 1889, to June 14, 1889.

By direction of the acting Secretary of War, First Lieut. Philip G. Wales, Asst. Surgeon (recently appointed), will proceed from this city to the Presidio of San Francisco, Cal., and report for duty to the commanding officer of that post, reporting also by letter to the commanding General, Division of the Pacific and Dept. of California. Par. 3, S. O. 132, A. G. O., June 8, 1889.
Capt. Charles M. Gandy, Asst. Surgeon, upon the abandonment of the post of Ft. Concho, Texas, will report in person to the commanding officer, Ft. Clark, Texas, for duty at that station, to relieve First Lieut. Ogden Rafferty, Asst. Surgeon, reporting also by letter to the commanding General Dept. of Texas.
Lieut. Rafferty, on being relieved by Capt. Gandy, will report for duty to the commanding officer, San Antonio, Texas, reporting also by letter to the commanding General Dept. of Texas. Par. 7, S. O. 133, A. G. O., Washington, June 10, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending June 15, 1889.

Asst. Surgeon O. D. Norton, ordered to the Naval Hospital, Chelsea, Mass.
P. A. Surgeon J. H. Hall, detached from the Naval Hospital, Washington, D. C., and granted six months' leave to go abroad.
P. A. Surgeon D. O. Lewis, detached from the Naval Academy and to Hospital, Washington, D. C.
Surgeon Geo. A. Bright, detached from the Navy Yard, Norfolk, Va., and wait orders.
Surgeon R. A. Marmion, detached from the receiving ship "Franklin" and to Navy Yard, Norfolk.
Surgeon D. N. Bertolette, ordered to the receiving ship "Franklin."
Medical Inspector B. H. Kidder, ordered to the Naval Academy, Annapolis, Md.
Medical Inspector T. C. Walton, detached from the Naval Academy and to the U. S. S. "Chicago."
P. A. Surgeon H. G. Beyer, ordered to the training ship "Portsmouth."

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending June 8, 1889.

P. A. Surgeon F. W. Mead, ordered to examination for promotion. May 31, 1889.
P. A. Surgeon P. M. Carrington, to proceed to Johnstown, Pa., on special duty. June 3, 1889.
P. A. Surgeon W. P. McIntosh, when relieved at New Orleans, La., to proceed to San Francisco, Cal., for temporary duty. May 29, 1889.
Asst. Surgeon A. C. Smith, relieved from duty at Louisville, Ky.; ordered to Marine Hospital, New Orleans, La. May 29, 1889.

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CHICAGO, JUNE 22, 1889.

No. 25.

ORIGINAL ARTICLES.

SURGICAL REPORTS.

Read before the Chicago Medical Society, May 7, 1889.

BY CHRISTIAN FENGER, M.D.,
OF CHICAGO.

It is hardly proper to call this a paper, as it is simply the presentation of specimens, with a few remarks.

I. RUPTURE OF THE KIDNEY.

I will commence with the case of rupture of the kidney, which was as follows: Otto Lehmann, 20 years old, from Rockford, Ill., came into my hands February 3, 1888, and gave the following history: He had always been strong and healthy until about a year ago, when the following accident occurred: While walking along a wooden sidewalk built about 5 feet above the ground, he stepped over the side and fell to the ground. He experienced the most violent pain in the right lumbar region, had to be carried home, and any attempt to move him aggravated the pain. There was some blood in the urine for perhaps a week, after that time the urine became normal; nevertheless he lost greatly in flesh and strength, the pain in the right side remained and a swelling formed. When I saw him, a year after the injury, he was pale, somewhat emaciated, and in the right side there was a fluctuating swelling reaching from the ribs to the pelvis and to the median line. His temperature was 101° , showing some fever all the time. An exploratory puncture showed this swelling to contain urine, which was slightly turbulent and contained a few pus corpuscles. The operation was lumbar incision and drainage, 1 quart of fluid was evacuated from the swelling. But the fever remained and after several weeks even increased, the temperature varying from 101° to 103° , with profuse sweats and progressive emaciation. I concluded then that suppuration or sepsis was going on, that the most natural location of that sepsis was the tissue of the kidney, and I resolved on extirpation.

I extirpated the kidney on April 12 by the usual lumbar method and T-shaped incision. At that time there was found, besides the kidney, which is here presented, a large abscess cavity ex-

tending up towards the diaphragm and down in the large pelvis. After the operation the condition of the patient was not improved, he gradually got worse and finally exhibited symptoms of inflammation in the corresponding lung, from which blood and pus was expectorated, and he died May 3, three weeks after the extirpation.

The kidney, which was removed one year after the original injury, presents the following appearance: It is divided into two portions, an upper and larger, and a lower and smaller one, with a transverse place of division in which there is an opening through, which leads into the portion of the pelvis belonging to the lower portion of the kidney; otherwise the tissue of the kidney is normal. When the pelvis was opened it was found that the lower portion of the kidney was excluded from the pelvis by the transverse mass of cicatricial tissue seen in the specimen. I therefore think it likely that the urine contained in this space was from the lower portion.

The autopsy showed an abscess cavity in a portion of the kidney, extending to the lower surface of the liver, in the right lobe of which was an abscess the size of a hen's egg, communicating with a subdiaphragmatic collection of pus between the convexity of the right lobe and the diaphragm. From the latter abscess cavity a communication existed through an opening in the diaphragm, up into the pleural cavity, in the lower half of which was an empyema which had perforated into the lung tissue, and emptied into a large bronchus of the lower lobe.

I wish to make a few remarks on the class of cases to which this specimen belongs, namely: subcutaneous ruptures or injuries to the kidney.

One hundred and eight cases of subcutaneous injury to the kidney have been collected lately by Grawitz.¹ Of these 108 cases we can judge of the severity of the lesion by the fact that fifty died. As to the etiology, we can distinguish between direct and indirect injury to the kidney. The direct injury is by a blow, by a foreign body, falling against a sharp edge, as a rail on a railroad track, being driven over by a wagon wheel, the kick of a horse, a heavy body falling against the side of the patient, etc. The direction of the body

¹Langenbeck's Archiv. für Klinische Chirurgie, Band xxxi, p. 419.

that causes the injury is not necessarily directly over the kidney; it may strike the anterior surface of the abdomen or either loin, as well as the side. Indirect injuries, which are also known as ruptures, may be an injury to the whole body, for instance a man falling from a great height or from a horse to the level of the ground, not striking against any portion of the body in particular. This was true in this case, where the boy fell 5 feet down on the level ground. Also when a laboring man digging a well is buried by the caving in of the earth, the same thing is shown. Such injuries, acting diffusely on the abdomen, do not cause local symptoms, ecchymoses, abrasions, etc., but sometimes fractures of the lower ribs or of the spinous processes of the vertebrae point to a severe injury.

As to frequency, Grawitz remarks that it is probable that subcutaneous injuries to the kidneys are more common than is usually believed, and much more common than these 108 cases would imply, inasmuch as there undoubtedly are a number of cases where the hæmaturia is slight, passing off in a week, and so they are not recognized or published.

As to the anatomy, direct violence can of course crush the kidney tissue; a slight injury may cause a rupture which is limited to the tissue of the kidney without opening either into the pelvis or capsule, or it may open into the pelvis and capsule, or may rupture also the peritoneal covering of the kidney, or finally, the whole kidney may be crushed. The slighter injuries almost always present themselves, as in this case, as ruptures, and the direction of the rupture is almost always the same as in this case, transverse, so that the kidney is divided into an upper and lower portion transversely, whatever the direction of the body causing the injury may have been. This has its explanation, says Grawitz, probably in the fact, first, in the foetal shape of the kidney, consisting of numerous small lobuli, twelve to fifteen in number, *renculi*, as they are called, divided from one another by transverse sulci. It has been shown by Hatayama, in experiments on animals with transverse lobulation of the kidneys, that when a rupture is produced it is a transverse rupture. Attempts to determine this by Grawitz and Caspar Leman, by rupturing the kidney on dead bodies, have not been successful; it seems as though life is necessary to produce rupture of the kidney in that way. The natural consequence of rupture of the tissue is hæmorrhage, and the quantity of blood is of course variable according to the extent of the injury. The larger the vessel the more the extravasation.

The following points should be taken into consideration as to the danger of immediate hæmorrhage: If the capsule is not ruptured, then the blood will dissect away the tissue of the kidney from the inner surface of the capsule and there

will come a time when the tension here becomes extensive enough to stop the hæmorrhage mechanically. If the capsule is ruptured, extensive extravasation in the pararenal tissue may take place and form a hæmatoma that may extend from the diaphragm to the pelvis, but even here there will finally be some tension which will tend to stop further extravasation. When the peritoneum is ruptured over the kidney then the blood has access to the peritoneal cavity, and of course there is no tension that will have a tendency to stop the hæmorrhage, consequently these are the cases in which there is most danger of acute fatal hæmorrhage. In children, rupture of the peritoneum is more common than in older people, partly because the peritoneum is thinner and partly because it is more tense over the surface of the kidney. If the pelvis of the kidney is ruptured then the blood goes down the renal passages and appears in the urine, except where there is a simultaneous rupture of the ureter.

As to the symptoms: pain is almost always present, and this pain is usually so violent that patients are unable to walk or stand. Shock is not particularly characteristic for injury to the kidney, but, when connected with anæmia and followed by collapse, points to severe intraperitoneal hæmorrhage. A tumor is felt only in case of rupture of the capsule and extrusion into the perirenal tissue. Hæmaturia is almost constantly present, rarely entirely absent, but often of short duration only. It is slight in small ruptures, copious in rupture of large vessels of the pelvis, and sometimes intermittent when a coagulum temporarily stops up the ureter. It may be intermittent when the thrombosis that is primarily found in the vessel later disappears, for instance, if it is being washed away with urine; the result of coagulation on its passage down may be renal or vesical colic. The hæmaturia usually lasts from one to two weeks, it is very seldom that it stays as long as the fourth week.

As to the course and termination, the following is known: Fifty-eight cases out of 108 recovered. The course is usually divided into two stages, a non-suppurative primary, and a suppurative secondary stage. It is an error to divide the course of such an injury in this way, inasmuch as a given case does not necessarily pass from one into another; consequently it would be as well to divide them into cases where we have healing by first intention on the one side, and healing by second intention and suppuration on the other side (Grawitz); or to divide them into aseptic and septic cases. Aseptic healing took place in forty-six out of fifty-eight recoveries (Grawitz). In the milder cases the blood disappears, pain ceases and recovery takes place in one to three weeks. In severe cases it took one to three months. Experiments made by Maas on animals to determine the effects of crushing and rupture of the tissues

of the kidney show that aseptic healing is the rule, even when there is extensive crushing of a large portion or all of the kidney, by aseptic atrophy with absorption of the dead tissues and replacement with connective tissue, and compensating subsequent hypertrophy of the other kidney. This takes place in from eight to thirty days, usually. Suppuration took place in seventeen out of the 108 cases, or in ten of the recoveries. The cause of the suppuration of course need not be discussed; it is microbes, pus microbes perhaps, but microbes. This was suspected as far back as in 1869, when Billroth's assistant Menzel, and Simon mentioned it, showing for the first time that healthy urine does not produce suppuration but that decomposing urine does; but they left it uncertain whether it was the ammonia in the decomposed urine or the microbes, which Billroth had then paid considerable attention to, which caused the suppuration. Tillmans states that extensive crushing of the area of the kidney tissue, when no suppuration takes place, causes only a limited parenchymatous inflammation around the dead tissue. Aseptic silk sutures through the kidney tissue do not cause suppuration, but will heal just as well as in any other tissue. A diffuse parenchymatous nephritis from traumatism is rare and has been described in only three cases.

The sources of infection are the blood, the urinary passages and, finally, the abdominal organs. The blood is very rarely a source of secondary infection to crushed tissues mixed with urine. Rinne has shown that putting woolen threads through the kidney tissue, although they cause more mechanical injury than do silk or linen, will heal antiseptically even when pus microbes have been injected into blood-vessels or into the peritoneal cavity before, at the time, or after the threads have been put in, which speaks very strongly for the blood being only occasionally the carrier of the microbes to infect the crushed tissue. The urinary passages, then, are the ones to look to, and of course any previous condition in the shape of gonorrhœa or cystitis, or (what from the history of the numerous cases seems to be well proven, in some of them at least) from catheterization with an unclean catheter after a rupture which has caused coagulation of blood in the bladder, has caused the infection of the injured portion of the kidney. The course of the suppuration is the following: either a perirenal abscess or, what is more grave, suppurative nephritis; multiple abscesses in the kidney tissue, either acute or chronic, the acute being by far the most common.

Death took place in fifty cases out of the 108, a mortality of 46 per cent.; but of these cases there were a number with complicated injuries of the abdominal and thoracic organs, which ought to be excluded from subcutaneous injuries to the kidney; when these have been excluded there remains a mortality of 35 per cent. (Grawitz). The

most common cause of death is immediate hæmorrhage, the patient dies within a couple of hours or within the first day or two; that is, when the pelvis is opened and the large vessels of the kidney ruptured. The rupture of the peritoneum does harm mostly by not giving resistance enough in helping to check the hæmorrhage, inasmuch as blood and urine when aseptic, even in considerable quantities, are, as has been shown by Wagner, readily absorbed from the abdominal cavity. Later continuous hæmorrhage that comes on in the two or three following weeks takes the life of some patients, but only half as many as the primary hæmorrhage (in eight of Grawitz's cases). Then comes the suppuration or sepsis, which is, as has been seen, in the minority; suppurative nephritis, paranephritic abscess, peritonitis, pleuritis by extension of the abscess, or metastatic. Finally, suppression of the urine rarely causes death (in three only of Grawitz's cases), and of course depends upon the condition of the other kidney, either both kidneys being crushed or the remaining kidney being unhealthy.

II. PRIMARY CARCINOMA OF THE KIDNEY.

The patient, J. P. Bakken, a man of 30, came from Red Jacket, Michigan, in April, 1888, and gave the following history: He had always been healthy, and was considered a strong and robust man; worked in a mine. Two years previously, while at work in the mine, he suddenly felt a pain in the region of the kidney and went home, was laid up for some time. A diagnosis was not made, but he had a pain in that side, nothing characteristic that would call anybody's attention to the urine, and finally after some weeks he got on his feet again and concluded to go to his native country, Sweden, for his health. He stayed there, and one day while jumping about eight feet from a rock down to the ground below, suddenly felt a pain in the left lumbar region, and from that time there was blood in the urine. During the whole year there was blood in the urine, sometimes less, sometimes more, often very considerable quantities so as to make him rather anæmic. When he came to me he had lost strength, had not felt able to return to work for some time, and when examined the urine was mixed with blood in rather large quantities. There could be felt enlargement of the kidney, not very distinct, but still distinct enough to make it different from the other side, and, as in all cases of hæmaturia, I looked for pieces of tumor over and over again, and finally found a small shred of tissue showing round, oval and club-shaped cells that made me believe the tumor to be sarcoma. This decided an operation, which was nephrectomy, by the lumbar method. The patient became comatose the day after the operation, and died with symptoms of uræmic coma on the third day. No autopsy permitted.

The kidney shows the following characteristics: There is a round tumor on its anterior surface an inch and a half to two inches in diameter. Its smooth surface is covered by the distended capsule of the kidney. Its posterior surface bulges into the pelvis, the upper part of which is perforated by a sessile, polypoid projection of the tumor. The apex of this projection is rough and jagged from destruction of the mucous membrane, shreds of uncovered tumor-tissue protruding from the surface and being the source of the hæmaturia. A transverse section through the tumor shows irregular cavities in the centre filled with coagulated blood, in one instance so near the surface as to give the sensation of fluctuation. Microscopical examination shows the typical characteristics of carcinoma, with only a slight amount of connective tissue and large alveoli, lined and filled with large round and polymorphous cells; these cells have large round or slightly oval nuclei surrounded by a large granular protoplasm or cell body.

I will say a few words about primary carcinomas of the kidney in connection with this case. Carcinomas as well as sarcomas are usually found at two different periods of life, viz: from 1 to 10, and from 50 to 70 years. Carcinomas are unilateral and most common on the right side. They are more common in men than women, in contradistinction to sarcomas which are more common in women. Heredity is doubtful, but a congenital origin seems to be plausible in the carcinomas of children. Traumatism is not uncommon.

As to the anatomy, there are some points which are new in the literature, and which P. Wagner, in a recent article, has called attention to.² It was usually supposed that carcinomas originated from the epithelial cells of the urinary canals, but a number of carcinomas were found in which the cells did not look like urinary epithelial cells at all, but did look like the large cells in the supra-renal capsule. Then it was demonstrated by Klebs and Grawitz that erratic islands of supra-renal capsule tissue were found in the kidney substance near the capsule. It is therefore likely that many carcinomas having this kind of cells develop from these islands.

Clinically we may distinguish between a more benignant and a more malignant form of carcinomas. The relatively benignant form is of slow growth; may remain stationary for years, has late metastasis or not at all and is always unilateral. The average duration of the disease in adults is from one to two years; one of Wagner's cases lasted seven years and a half. The malignant form is characterized by rapid growth, softness of tissue, early diffusion and early metastasis, is common in children, where in a few months growths of enormous size are formed. Cystic

softening of the centre and hæmorrhage within the tumor is common. Carcinomas often open into the pelvis, as in the case here described causing hæmaturia, but in cases of this kind it is rare that fragments of the tumor are loosened and found in the urine.

The symptoms are naturally similar in carcinoma and sarcoma. The tumor is always found later in the disease, and may attain an enormous size, especially in children. It is often nodular, with fluctuating areas corresponding to cysts or hæmatomas within the tumor. Out of fifty cases, Ebstein found a palpable tumor noted in forty-seven, the symptoms thus being absent in only three cases. Hæmaturia is rather a common symptom; it is natural that there should be blood in the urine as soon as a tumor, carcinoma or sarcoma, opens into the pelvis of the kidney and the covering mucous membrane is destroyed by pressure, atrophy and hæmorrhage. It is quite possible that the presence of urine on the surface of such a tumor makes hæmorrhage more common by washing away clots. In a collection of seventy-five cases of adults with carcinoma, Rohrer found hæmaturia in twenty-three. In fifty cases of children, Leibert found hæmaturia in nineteen. Ebstein, in fifty cases of all ages, found hæmaturia in twenty-four. The origin of the hæmaturia is almost always from the carcinoma when it has perforated into the pelvis or ureter. Rarely, it may come from the other non-carcinomatous kidney. In a case described by Kühn, he found in the pelvis of the right non-carcinomatous kidney a teaspoonful of blood, and a coagulum in the ureter. He believes the hæmorrhage due to over-distension of the glomeruli from over-work of the organ. The hæmaturia is sometimes slight, sometimes profuse. It is usually found in the beginning of the disease, according to Leibert in two-thirds of the cases of hæmaturia, ceases after a while and does not reappear in the later course of the disease.

As to the degree of hæmorrhage: it is rarely so profuse as to prove fatal. It is not uncommon that, as in this case, the hæmorrhage is started by traumatism. Sarcoma is said to be less commonly followed by hæmaturia than is carcinoma. Neumann gives as the cause of this that sarcomas have less tendency to open into the pelvis than carcinomas. Hæmorrhage rarely occurs in the beginning, then ceases, then recurs towards the end; still more rarely does it occur towards the end and not in the beginning. Albuminuria is seen sometimes independent of hæmaturia. The presence of pieces of tumor in the urine is not a very valuable diagnostic sign because they can seldom be found. The mistake that I made here from the cells which I thought to be sarcoma, is one that Rosenstein has pointed out. Small dislodged pieces of surface epithelium from the pelvis of the kidney, with its club-shaped cells, may

² Casuistische Beiträge zur Chirurgie, Deutsche Zeitschrift für Chirurgie, Band 24.

look like and be mistaken for sarcoma. A safer method of diagnosis is to make an exploratory aspiration from within the tumor and get out a little piece of tissue in the hypodermic syringe which will often give a piece large enough for diagnosis. Pain is often absent. When present, besides having its seat in the region of the kidney, it radiates towards the ribs and down the femur. Pain is not only commonly absent, but it is not characteristic of malignant tumors as compared with an inflammatory condition of the same region. The diagnosis between sarcoma and carcinoma is an ideal one, as the treatment is the same. No symptoms exist to make such a diagnosis outside of anatomical means.

As to the treatment by extirpation, it was said by Gross two years ago that the results are so miserable that extirpation of the carcinomatous kidney should be entirely given up. Sarcomas in children should not be extirpated, and the only malignant tumors of the kidney where extirpation should be permitted are sarcomas in adults, especially in women, and more especially in floating kidney. It is possible that when an earlier diagnosis can be made, earlier operation may make the prognosis better. The majority of surgeons, in Germany at least, believe that this will be so. The arguments in favor of operation are that the disease is usually unilateral, both kidneys being diseased in only 10 per cent. of the cases (Wagner), and further that the relatively benign forms have a slow growth and late metastasis. Rohrer in 115 cases found none in which the peripheral lymph glands were invaded.

The prognosis of extirpation is grave in young children who have slight power of resistance against extensive operations with great loss of blood; the prognosis is also grave when the operation is performed so late that the patient is already cachectic. Gross collected forty-nine cases of nephrectomy for carcinoma or sarcoma: thirty died during or shortly after the operation; of the remaining nineteen, ten died within a few months from continuance of the growth, and six, all of which were cases of carcinoma in adults, lived only from one and a half to five years. The prognosis of the operation was most grave in children: of sixteen children, nine died from the operation, four shortly after, and three were not afterwards heard from.

As to the method of operating: Laparotomy is more dangerous than lumbar extirpation, the respective percentage of mortality being as 64 to 45. Consequently the lumbar operation should be always preferred when the size of the tumor will permit. The longitudinal or oblique incision gives too little space, therefore a T-shaped incision is preferable. Von Bergmann has recently proposed an interior oblique incision, the same as for ligature of the aorta and common iliac, pushing the peritoneum inward from the anterior surface of the tumor.

III. RENAL CALCULUS.

The third specimen is a stone from the pelvis of a kidney. The patient, Mrs. P. *et.* 30, from Dakota, had always been healthy with the exception of chronic indigestion for which she had been under medical treatment off and on for years, until a year ago last March, when she noticed intermittent pains in the right side soon followed by a whitish sediment in the urine. She gradually lost strength and flesh, and the attacks of pain, often running down the right leg, became more frequent and more severe.

On admission to Emergency Hospital she looked exceedingly pale and emaciated, a swelling seven inches long and four inches broad was found in the right side of the abdomen, extending from an inch to the right of the umbilicus, outward and backward into the region of the kidney. The tumor was somewhat tender to the touch indistinctly fluctuating and slightly movable, below and separated from the liver. An exploratory puncture in the lumbar region disclosed the presence of stone and brought out pus. Pulse 100; temperature 101°. On January 21, I made nephrotomy by lumbar incision. When the surface of the kidney was reached fluctuation was distinctly felt through a thin layer of kidney tissue. This was divided by Paquelin's cautery, and a pint and a half of fetid pus evacuated. Digital exploration revealed three stones the size of a hazelnut, and a large one two and a half inches long with projections corresponding to the calices of the kidney, slightly movable, but still so firmly imbedded that it was necessary to divide it by crushing. In attempting to remove the pieces it was still found difficult to dislodge the projections into the calices without tearing through the thin layer of cortical tissue. For fear of breaking through the surface of the kidney into the peritoneal cavity, it was found necessary to enlarge the opening on the convex side of the kidney to about an inch and a half so as to bring out the fragments without too dangerous manipulation. The irregular cavity was washed out with boracic acid through two large drainage tubes.

In the course of five weeks the suppuration diminished, temperature became almost normal, the patient improved in general health, and toward the end of April had gained thirty-five pounds in weight. There still remained, however, a purulent discharge through the drainage tube around which the wound had contracted considerably, and there was still some pus in the urine. On the supposition that either the drainage was insufficient or that some portion of the stone still remained, the fistula into the kidney was reopened on May 9. In the cavity, now much contracted, a small amount of gravel was found, and in the upper part of the kidney, an abscess cavity the size of a walnut, apparently not connected

with the pelvis. No stone was found here. Drainage and packing with iodoform gauze. Since that time the discharge has diminished, but a fistula still remains: the urine has become clear, but still contains a small amount of pus.

I shall make no further remarks on the subject of nephrolithotomy as Prof. Billings is going to discuss the subject and exhibit the specimens of a second case, operated upon by me about two weeks ago.

TREATMENT OF ACUTE LOBAR PNEUMONIA.

Read at the Fifth Annual Meeting of the Fifth District Branch of the New York State Medical Association, held in Brooklyn, on May 28, 1886.

BY J. G. TRUAX, M.D.,
OF NEW YORK.

The writer will not detain you very long to-day. His intention is not to give a complete history of the treatment of lobar pneumonia; that can be found in any of the late text-books, but rather to give an account of the particular kind of treatment which has proven to be the most successful in his experience. Before doing this, perhaps it would be well to describe some of the different kinds of pneumonia, only one of which will be considered in this paper, namely: acute lobar or croupous. The signs by which this disease may be recognized are these: Severe chill, pain, prostration and cough, nausea, rise of temperature, fine crepitant râles (not always present), sputum sticky and streaked with blood, albuminuria present in a large proportion of cases—about 50 per cent. Great trouble in breathing, a quickened pulse, sometimes very rapid. There may be very marked dulness on percussion and bronchial breathing. Vocal fremitus increased. When this last condition is present on left side, it is of considerable importance as a diagnostic sign.

The disease for which acute lobar pneumonia is most liable to be mistaken is secondary lobar pneumonia. The last-named disease is more insidious in its beginning. There is less trouble in breathing, chill frequently absent, little or no pain, average temperature not so high. Bronchial breathing and dulness are the most decided symptoms. Expectoration scanty, crisis sooner than in acute lobar pneumonia.

The other varieties of pneumonia need not be described, to name them will be sufficient. They could hardly be mistaken for either of the diseases just mentioned. They are known as bronchial, lobular or catarrhal, embolic lobular or septic, interstitial of heart disease or chronic, hypostatic or lung congestion.

Within the last few months the writer has attended fifty cases of acute lobar pneumonia. The etiology and clinical history he has been able to carefully study in these cases while alive, and to

make autopsies upon the thirteen who died. It will be unnecessary to give a detailed history of each of the fifty cases and the treatment in each particular case. To do so would not be in accordance with the scope or object of this paper, but for purpose of instruction two cases will be taken, A and B, which will represent the conditions requiring the greatest variation in the treatment of acute lobar pneumonia.

A is a patient in middle life, medium size and fairly well nourished. When first seen he gave a history of chill, pain in the chest, prostration and cough; respirations and pulse more frequent than in health, sputum streaked with blood and scanty; temperature 2° or 3° above normal. A physical examination reveals a crepitant râle, some dulness on percussion over lower lobe of either lung, and bronchial breathing. There is no albumen in urine, no delirium, pulse rarely getting above 100. Crisis takes place in from five to ten days. This class of cases comprise about half of all the pneumonic patients that come under the care of the physician. He can give full play to any fancy in the treatment of these patients. They will nearly all recover no matter how treated.

B represents another condition, present in many of those unfortunate enough to be afflicted with this dreaded disease, which, while there is not so much difference shown by a physical examination, the clinical history differs widely, and to conduct to a favorable termination, will require the care and skill of an intelligent physician. Here we find albuminuria and delirium almost always present, temperature rises to 104° or 105° , pulse 120 to 140, great embarrassment of the respiratory circulation and consequently a labored heart action.

Is there anything to be done which will relieve the patient of these aggravated symptoms? The object of this paper is to teach that generally it can be done and many lives saved. The writer has no new theory to advance; his only object is to revive a very old one (with some few modifications), which has generally fallen into disuse; or, more properly speaking, gone out of fashion. Almost all kinds of treatment, other than venesection, have been tried by the writer to relieve the heart, when obstruction to the pulmonary circulation was very great, and death from heart failure imminent, but with no great success. He had lost five patients in succession (all Italians) from this cause, none of whom had more than one lobe of one lung affected, and all having the appearance of being sturdy if not robust men. Not having written a book on any treatment of this disease, the writer did not hesitate about changing his when circumstances seemed to require it. To take from such patients venous blood, thus relieving the right heart, and to some extent lung congestion, appeared to the writer to be rational treatment. Experience has proven it

to be so. The next five patients coming under his care, who seemed to be in great danger of dying from heart failure, were bled. They all recovered, all the aggravated symptoms improving immediately after bleeding. Experience has taught that antifebrin and quinine in small doses after bleeding would control the temperature and pulse for a long time. Given in large doses before venesection in these cases, it produced almost no effect. Hoping that it may prove interesting, the writer will now read a condensed report of the five patients bled. Such portions of the histories only as will show the condition the patients were in at time of bleeding, and the effect of the treatment, have been taken.

Case 1.—Joseph Albindo, æt. 25, born in Italy, married, occupation laborer. Admitted into the hospital March 14, 1:30 P.M. Temp. 105°, pulse 112, resp. 53. Great dyspnoea and painful respiration, face and neck very much congested. Physical examination showed him to have pneumonia of lower lobe of left lung. Patient given 10 grs. of calomel, 20 grs. of quinine and 5 of antifebrin. The medicine apparently having no effect three hours after given, 16 ozs. of blood were taken from right arm. The patient breathed easier at once; he had a slight chill, which was soon checked by stimulants. Temperature fell gradually until next day, when it was 102°. At no time afterwards did it get higher. Discharged cured April 4.

Case 2.—Louis Berlitchio, æt. 45, native of Italy, laborer, married. Admitted March 26. Had been sick three days, was first taken with a chill; at time of admission complained of pain in right chest, and had a cough. Physical examination revealed dullness over lower lobe of right lung and part of middle, bronchophony, crepitant râles and increased vocal fremitus. Temp. 101°, pulse 108, resp. 36. The next morning temp. 103.8; next afternoon temp. 104°. Urine examined; color red, reaction acid, specific gravity 1015, albumen 10 per cent. Patient given sponge bath, quinine and antifebrin. March 28, two days after admission, temp. 104°, pulse 142, resp. 42. Pulse full and bounding, respirations superficial and painful. The median basilic vein of right arm was opened and 16 ozs. of blood taken. Patient was comfortable in the evening. Dyspnoea not so great and the pulse not so rapid. March 29, temp. 104.6°, quickly reduced with 3 grs. of antifebrin. March 30, temp. did not go above 102°. Nothing given to patient but milk. March 31, temp. 103°; given 3 grs. of antifebrin. After this the patient did well and was discharged cured April 12.

Case 3.—Guiseppe Posatti, æt. 28, native of Italy, laborer. Admitted to the hospital July 15, 1888. This patient was not very robust, looked as if he had no blood to spare. Physical examination revealed the signs of pneumonia of lower

lobe of left lung. His temperature was not very high, but there was great dyspnoea and a very rapid pulse. After having been given for twenty-four hours the usual remedies for improving the action of the heart, with little effect, the patient was bled. Owing to his anæmic condition only 11 ozs. of blood were taken. The distressing symptoms passed away at once. Patient made a good recovery, and was discharged cured in less than one month from time of admission. Bleeding was contraindicated in this case by all the rules laid down in recent text-books.

Case 4.—John Matza, æt. 24, native of Italy. Admitted into the hospital February 1, 12:30 P.M. This patient had pneumonia of lower lobe of left lung, and phthisis of upper lobe of right. His temperature went up to 104.6°, pulse 140, and respirations 44. We did not bleed this patient until after stimulants failed to keep up the action of the heart. The heart action had become very weak. Thirteen ozs. of blood were taken from right arm. Patient improved after bleeding. He left the hospital one month and twenty-four days after admission cured of his pneumonia.

Case 5.—John Grady, æt. 31, born in this country, single, laborer. Admitted September 24, 1888. Gave upon examination the physical signs of pneumonia of both lungs. At time of admission patient was suffering from great pain and dyspnoea. Temp. 104°, pulse 118, resp. 40. He was put to bed and given a sponge bath, which reduced slightly the temperature. 6 P.M., three hours after admission, temp. 105°, pulse 136, resp. 46. He was given at this time quinine grs. x, antifebrin grs. iij, poultices applied to chest, milk diet. This treatment continued until September 30, when the following record is found on the history book: "Patient has been delirious all day, had to be constantly watched to prevent him from getting out of bed, is very thirsty, calling for drink all the time. Given over 4 pints of milk during the day. Urine examined shows 20 per cent. albumen. The patient has a full, bounding pulse, there is great dyspnoea. At 3 P.M. 17 ozs. of blood were taken from right arm. Patient seemed weaker afterwards, but the dyspnoea had disappeared and he rested much better through the night. Twenty-four hours after bleeding temp. 101°, pulse 76, resp. 32. Patient made a good recovery and was discharged cured in about four weeks from time of admission."

The writer would suggest the following general rules for the treatment of acute lobar pneumonia: When patient is first seen, unless contraindicated, a brisk cathartic. Should there not be much impairment of the pulmonary circulation or a very high temperature, a liberal milk diet will be sufficient; or, in other words, the treatment should be expectant. When great dyspnoea, high temperature and a rapid, bounding pulse are present, something must be done. To relieve these symptoms

the patient should first be given quinine grs. x, antifebrin grs. iij, every four hours (unless patient improve sooner), until at least 30 grs. of quinine and 9 of antifebrin have been given. If the patient does not improve under this treatment in twenty-four hours, dyspnoea, rapid pulse and high temperature still remaining, venesection should be performed, and enough blood taken to relieve patient.

Experience has led the writer to believe that bleeding will save many patients when all other means would prove futile.

17 E. 127th St., New York City.

HIGHER GRADUATE INSTRUCTION AND SPECIALISM IN MEDICINE.

BY LAWRENCE TURNBULL, M.D., PH.G.,
OF PHILADELPHIA.

Delivered at the Opening of the New Howard Hospital Building, Broad and Catharine Sts., Philadelphia, May 23, 1889.

Is this instruction required? Examine the men who are yearly sent out of our Medical Institutions, all over the country, with their diplomas, and you will find they are sadly deficient in the practical knowledge to fit them to take the lives of the community in their hands.

Proof of this is not wanting: a few questions addressed to them will convince the most sceptical of their utter ignorance of some of the most essential facts, which are always considered requisite to make a correct diagnosis. The extreme awkwardness with which they handle delicate instruments, shows at a glance that they are not familiar with them. A still more positive proof is afforded, by the best men of the class, being willing and anxious to undergo a competitive examination for the Navy, Army, or Hospital appointment, so as to afford them the opportunity of practical instruction, which is of so much value in the profession. How few, alas, are these opportunities to the larger number who apply, and how dishonorable in our schools of medicine to grant diplomas to hosts of graduates who are lacking practical technical education, and still more, manual training: who must enter practice, and find little or no success, drift into something else, or become depressed in mind, at their lack of the requisite knowledge, losing their patients, because unable to make a correct diagnosis and follow it by successful treatment. These men, many of them, poor in pocket, but rich in honorable intentions, feeling their great need, as soon as they are able to save a little money, have to come again to the great centres of medical knowledge for the practical instruction, which they should have acquired before receiving their certificate to practice.

What is wanted in our Medical Schools? There are always young alumni of the various schools,

who having little practice and plenty of time on their hands in a large city, devote themselves to special branches of medicine, and acquire a thorough knowledge of the same in order to teach, and are glad to be connected with their Alma Mater. These men should receive, as an equivalent for their work, the title of Clinical Professors, and in conjunction with some hospital or dispensary service, should teach, a number of months in the year, to limited classes designated by the Faculty.

NUMBER OF LECTURES.

There should be from three to six lectures, clinics or private classes at the same time, and most of our large buildings could be so altered as to provide accommodations for the students. Prior to their coming, it would be of much service to them if they could acquire some knowledge of the living languages, such as French and German, and botany, natural philosophy and zoology.

What the Junior students should do before they come: First. Much time should be given to anatomy, the study of bones, dissecting dead animals and living plants. Second. Demonstrations upon model or manikin, or the dead subject, so as to be able to point out and determine, first, the color, form and size of every organ of the body, and its position in relation to other organs. Third. To attend a certain number of lectures on chemistry, then, to perform all the ordinary simple experiments in chemistry, in the laboratory; testing the purity of drugs, animal fluids, their toxicological relations, etc. Fourth. Lectures on *Materia Medica*, and by handling, smelling, and tasting every article employed in medicine; not only when properly labelled and named, but to determine the name by the form, taste and smell, when only numbered. All of the manipulations in pharmacy and pharmaceutical chemistry in the laboratory. In the summer months, the teacher or clinical professor of *materia medica*, should form a class for the study of practical medical botany, and describe each specimen and dissect it under the microscope. The assistant professor of chemistry, should teach medical physics, including heat, light, sound, electricity, thermometry, etc.

What the Senior or Graduating Class should do. *Pathology.*—First, of animals, by handling every organ and dissecting it, and then of men, and the various natural and then abnormal products, and rare forms, by means of models.

Practical Medicine should be taught by lectures on diagnosis and memorizing the chief points of the most ordinary diseases, symptoms, palpation, percussion and auscultation.

Surgery.—First, minor surgery, applying bandages, bleeding, cupping, applying leeches, opening abscesses, vaccination, removing foreign

bodies, making of poultices, applying hot and cold lotions, etc.

Major Surgery. Operations under a clinical assistant, by performing every thing of importance.

Obstetrics.—The care of the woman prior and subsequent to confinement. Mode of arranging the bed in confinement, position, etc. Touch and mode of determining the position of the fetus. Thorough knowledge of the various positions of the fetus in utero. Various steps of delivery. Applications and use of catheter, and forceps on the manikin, etc., and attendance upon one to three cases of normal and abnormal labor, with use of forceps and catheter, under care of assistant.

Care of the women after confinement, diseases of the nipple and mammary glands. Also care and treatment of phlebitis and puerperal fever.

Gynecology.—Study of symptoms treatment of amenorrhœa, and dysmenorrhœa, leucorrhœa, and anæmia. Diagnosis of ulceration of uterus, ovarian, fibroid, polypus, and malignant disease, with operations for the same.

Therapeutics.—This is one of the most important subjects in the whole curriculum of study, demanding the most thorough and careful consideration on the part of both teacher and student.

The class should be so arranged, that each individual will be able to study the action of all drugs and medicines on animals and man; first on the animal and then on the man; and every medical school should provide animals for that purpose. Especially should be tested all powerful alkaloids, as atropia, morphia, pilocarpine, aconite, cocaine, etc., and be able to see the antidotes applied. Testing of all the secretions and excretions in various diseases, urine, blood, bile, feces, etc., so as to tell at a glance if the secretions be normal or abnormal.

The graduating class or post-graduate, wants to receive the opinions, and newest practical ideas of the specialist in mental and nervous diseases; of laryngologists, or throat diseases; ophthalmologists, or eye system; and otologists in diseases of the ear.

He requires instruction in their various methods of the application and manipulation with instruments, use of light, etc., so as to examine every part of the human body, and by a system of exclusion, find out the most obscure disease. These should be supplied with but little extra expense to a graduate in medicine of a three years' graded course.

Another important matter is, careful and systematic training in the administration of anæsthetics:

This should be given to every medical student, as so much depends upon the administrator—in some cases almost more than upon the operator. At how many medical schools are any but the barest attempts made to give instruction in a sys-

tematic manner, on a subject which I venture to think is not the least important in the curriculum?

We now come to the last part of our subject: Specialism in Medicine.

Specialism is one of the legitimate developments of medicine, and the great strength which to-day is manifested in special organizations shows how well the founders of this hospital were truly alive to the most progressive ideas. Look at the growth of medical knowledge during the thirty-six years of its existence in this institution. It has become so great that our mind cannot master, much less employ the knowledge in the practice.

As a recent writer so well expresses it: "There are no admirable Crichtons in our art. The genius of a Sydenham would shrink in despair before the immense masses of medical lore accumulated since his day. We read with astonishment of the acquirements of Dr. John Mason Good, who, to the reputation of a polyglot, added that of one of the foremost practitioners of his age. It is universally acknowledged that the men of one idea, those who confine their attention to one thing, be it a business or a science, are the men who succeed, who represent the progress of the age, and whose names posterity will not willingly let die. If we could imagine a physician thrown into a Rip Van Winkle sleep of say but ten years, and then recommence the practice of medicine, he would be astonished at the progress in all branches of the art. He would feel like the mouse which thought his chest was all the world, was astonished when he stood upon the hill and looked out to see what a great world lay beyond him. An oculist once observed with apparent satisfaction that many people no longer consult the family doctor about their eyes, but went at once to the oculist, as they would to a dentist for their teeth. Some regard this custom as objectionable, but it is entirely correct. The oculist will know the most about the eyes, and the doctrine that the patient should first go to a general practitioner, to be by him referred to the specialist, sounds very pretty, but it is unreasonable. Specialists of any standing in large cities are generally about equal in abilities, and the patient is just as likely to make a correct choice as the family physician." (Leffman.)

"Every year, as the physician becomes better educated, is his field of labor enlarged. Some years since the application of the obstetrical forceps was regarded as an operation requiring a consultation; now every recent graduate considers himself capable of performing it. All doctors should be able to prescribe the proper glasses for simple hypermetropia, and apply the uterine dilator in cases where it is indicated. These methods of treatment are supposed to belong especially to the oculist and gynecologist.

What is this extension, however, but an admis-

sion of the advantages of specialism? Why is the use of these instruments advised? Because these applications in the hands of specialists have shown such beneficial results that the general profession dares not overlook them if it would be true to its great trusts. Imitation is the sincerest flattery, and so far as the general practitioner follows the specialist, he unconsciously approves him."

In a recent discussion on this subject, Dr. Edward Jackson expressed some logical views, as follows:

"It has been said that the large number of specialists might be ascribed to the ignorance of the general practitioner. I would state this differently, and call attention to a view of specialism which I think is not sufficiently considered. A young man who has spent a few months in some eye hospital, concludes to take up the specialty of diseases of the eye, and goes into some large town in the interior of the country, where specialism is unheard of. He is consulted by patients who have become blind from glaucoma, losing the precious time when relief was possible, by advice of the best practitioners of the place, they must await the ripening of cataracts that never existed. He will find other cases—for instance, of refractive errors—which have been improperly treated or not treated at all. Cases of this kind will give him reputation with the laity, but will probably make enemies in the profession and raise some outcry against specialism. Now in such a town, the fact is, not the general practitioners are ignorant, but that there are no general practitioners. Those calling themselves general practitioners have been practicing specialism in its commonest form—that is, the form in which the practitioner devotes his attention especially to acute inflammatory diseases, fevers, obstetrics, and one or two other subjects, and ignores very many important branches of medicine. This is the form of specialism that has taken the firmest root and spread most widely; and specialism, so called, is merely the necessary growth of this, and is, to a certain extent, a recuperative reaction. This primary, widespread, and worst form of specialism arises from defective medical education. The crowded college curriculum does not adequately provide for certain departments of medicine which are of as real importance as any to the truly general practitioner."

And it is fair to ask—can a man be an educated physician and yet be ignorant of the use of the ophthalmoscope. Take, for instance, optic neuritis, and cerebellar disease, retinal hæmorrhage and renal mischief, retinal congestion and neuritis in pregnancy, characteristic retina of leukæmia. An examination of the retina might save a life. How many unfortunate might escape a world of drugging, if the practitioner could recognize the effects of astigmatism in the headache, the dizzi-

ness, the inability to work—symptoms so often referred to the stomach—all corrected by suitable glasses!

In the case of otology, let me enumerate some of the blunders I have known to be committed. Polypus has been mistaken for abscess and *vice versa*; the membrane destroyed in attempts to remove a foreign body which was not present; cerumen syringed for heroically, when not a particle of cerumen was there; the *membrana tympani* supposed to be absent and an artificial membrane advised to be worn, when the membrane was intact; ears lost, in, and after scarlatina, from want of treatment by paracentesis; mastoid abscess and periostitis, the result of neglected discharge, which was permitted to exist under the practitioner's advice that to "meddle with a discharge from the ear was dangerous." To those alone who do a large aural practice are the errors known which are fallen into in the simplest cases from a want of as much otological knowledge as one might gain in the extern department of our hospital in a single day. The study of the ear and throat is naturally allied. The naso-pharyngeal tract, so frequently affected simultaneously with the ear, requires special attention at the hands of all those who are anxious to know anything of diseases of the latter. There is no simple instrument to learn the application of, or at least to make one's self proficient in the diagnostic value of, than the laryngoscope.

To treat blindly every case of aphonia, ignorant of its cause and the pathological states which gives rise to it, when we can readily satisfy ourselves of the condition of the larynx with the laryngoscope, partakes strongly of quackery. The distress caused to the patient in using the instrument, and the discomfiture of the surgeon in the attempt, is simply the result of the waste of some little instruction, which would prevent the bungling and awkwardness of an uneducated hand.

In order to properly follow and develop any one of the specialties in medicine, the medical man must have a thorough training and experience as a general practitioner and then gradually devote his mind and body to the special study of one department, which he intends to make his life work.

Now a word or two in regard to our institution. Of the medical men who first acquired fame in this institution and have now passed away, we cannot help noting the names of James Aitken Meigs, distinguished as an Ethnologist and Physiologist, and of Samuel W. Gross, who performed his first important operation in this hospital. Of old residents and physicians who were connected with us and are now practicing their profession with credit to themselves, the public, and our institution, we would mention a few of them as Drs. C. P. Turner, O. H. Allis, Wm. H.

Parrish, C. S. Turnbull and many others. Some misapprehension has occurred in reference to our incurable department that we have placed so prominently on the front of our building.

The Howard was the very first to bring this important subject to the attention of the profession and the public; fortunately at that early period it languished for the want of adequate funds. It prevented us from erecting a large building and bringing together a mass of suffering humanity, who when they entered were never to return into the world well beings, each tending to make the other unhappy and all hopeless. It is well known from experience and experiments that no two consumptive patients, or cases of cancer, can be in the same ward without much discomfort to each and others by their cough and the disagreeable odors common to the incurable department. Hospitals for consumptives and cancer, both in this country and in Europe, have not proved a success. The home, be it ever so humble, of each sick and incurable individual is the best and most happy place, when supplied with the proper medical attendance, food, and now and then a little money to tide over difficulties. It is in this manner, we propose to carry out the incurable infirmary department. When we are able by the generous gift of some friend, we mean to purchase a number of single small houses, to accommodate those who are so unfortunate as to have *no home*. Some of those who hear me, who have the means, may be twice blessed by giving of their abundance to this department.

HYSTERECTOMY FOR LARGE FIBROMYOMA.

BY D. BENJAMIN, M.D.,

SURGEON COOPER HOSPITAL, CAMDEN, N. J.

H. M., æt. 30, living in the southern part of the State, came to me on the 24th of March, 1888, suffering from a large abdominal tumor, which, she stated, her physicians called an ovarian tumor. I obtained the following history: Her mother died of erysipelas; one sister died with cerebro-spinal meningitis. Patient's past condition was stated to have been moderately healthy until last summer, when she commenced to lose flesh; at this time there was noticed a slight enlargement of the abdomen, which was attributed to dropsy.

In October, 1887, she was examined by a physician, who stated that there was a tumor in the left ovarian region, then about the size of a fist. Two months afterwards she was subjected to another examination, and the tumor was found to have increased in size to that of a child's head. No history of any injury to this region could be obtained. Her menstrual flow had been regular,

sometimes profuse, had skipped one month, which she attributed to a cold.

She began to suffer from vomiting and constipation, and occasional abdominal pains. These symptoms had constantly grown worse, until almost every meal was vomited, and constipation became more and more obstinate, so that powerful purgatives had to be administered, but were losing their effect, and symptoms of obstruction were becoming marked.

She had lost fifty pounds on her weight within a few months, but as she had been previously inclined to embonpoint, her emaciation was not extreme. On palpation through the abdominal wall the tumor appeared symmetrical and mobile, did not feel so hard as is common with fibroid tumors, nor so soft as a cyst; was not nodular, felt very much like a pregnant womb in the early part of the ninth month. Fluctuation could not be positively demonstrated. Percussion sound dull, except a small area in each flank.

Vaginal examination showed cervix drawn up, and enlargement in Douglas' pouch about the size of a retroverted womb. Rectal touch gave no additional information, flexible urethral sound passed into os uteri about two inches, taking a forward direction; pregnancy having been eliminated by the examination, a diagnosis of solid, or semi-solid tumor, involving womb, could be made, but the exact relation of the ovaries to this tumor was not clear, and exploratory incision was advised, with a view of ascertaining the exact relation of the tumor to the pelvic organ and the possibility of its removal, with the understanding that any beneficial operation that would seem feasible, should be proceeded with. Accordingly, on the 29th of March, patient was etherized; the usual incision was made in median line, and surface of tumor exposed. Tumor was quite elastic and of a dark, muscular flesh color, and wedged so tightly in the superior straight of the pelvis, that only one ovary could be reached (the left, which was enlarged). Adhesion being slight, the incision was extended upward, with scissors, sufficiently to enable the upper part of the tumor to be reached, which was free, but in contact with the stomach and liver. The incision was then extended upward and downward sufficiently to enable the tumor to be delivered forward through the abdominal incision.

Both ovaries and Fallopian tubes could be easily reached, while the large tumor was held upward out of the abdominal cavity by an assistant. The pedicle could not, at this stage, be thoroughly examined. The right ovary was found crowded down into Douglas' pouch, and was enlarged to about the size of a hen's egg and roughened on the surface.

The right Fallopian tube was also much enlarged; the left Fallopian tube was about double the normal size and adherent. Both ovaries and

both Fallopian tubes were carefully ligated and cut away. The exact relation of the base of the tumor to the womb could now be clearly made out, and it was apparent that room enough could be made above the insertion of the vaginal wall into the cervix to remove the tumor and body of the womb (which was thoroughly uniformly fused), without necessarily wounding ureters, bladder, or other pelvic organ. I then determined to remove the entire tumor and womb, since to return it to the abdominal cavity would have been to have left her in almost as bad a condition as before the operation, with respect to the obstruction and other difficulties which the tumor caused, and at the same time be little less dangerous to the patient's life than complete hysterectomy. I then carried the incision downward as closely to the pelvic bone as the bladder would permit, ligated each of the round ligaments in two places and cut between, applied Koeberle's clamp and cut away the tumor and womb. The stump was at least three inches in diameter. Tumor was about thirty inches in circumference. After all bleeding points had been properly secured, and all clots removed from the abdominal cavity, the bowels and peritonem were thoroughly washed out by pouring three or four gallon pitcherfuls of warm water into her.

The omentum, which had been lying on a towel, was returned and arranged over the bowels. The pedicle was fixed in the lower angle of the womb and incision closed with silk sutures, at intervals, of less than an half inch. Wound was dressed antiseptically and patient placed in bed.

Temperature, which had been normal previously to the operation, was taken three-quarters of an hour afterwards and found to be $97\frac{1}{2}^{\circ}$; at 4 P.M., $100\frac{4}{5}^{\circ}$. The second day, at 7 P.M., it reached $100\frac{2}{5}^{\circ}$; pulse, 128; breathing, 28. Third day, 7 A.M., temperature, 101° ; 7 P.M., temperature, $101\frac{2}{5}^{\circ}$; pulse, 116; breathing, 24. Fourth day, 7 A.M., temperature, $99\frac{3}{5}^{\circ}$; 7 P.M., $100\frac{3}{5}^{\circ}$. Fifth day, 7 A.M., temperature, $99\frac{2}{5}^{\circ}$. Catheterization stopped on account of cystic irritation. Patient constantly improved without any untoward symptoms, and was discharged in six weeks after the operation. Clamp came off on the twenty-third day. Has not vomited since the operation; has had no pain; all functions are normal. States that it is the first time she has felt well for four or five years. Has returned to her home in the country, with rosy cheeks, full of life, and at this date, May, 1889, is in perfect health. Has not been sick a day since the operation, and is glad that she parted with her womb and ovaries.

In determining the value of the operation of hysterectomy to humanity, it is important that all cases should be reported, as I found the literature on the subject so meagre at the time of the above operation, that reliable data could not

be obtained in this country. The operation had never, so far as I can learn, been performed in New Jersey, but as hysterectomies are becoming more frequent and successful, ample statistics will soon be forthcoming.

AN UNUSUAL IDIOSYNCRASY ATTENDING THE USE OF ERGOT.

BY D. W. PRENTISS, M.D.,

OF WASHINGTON, D. C.

The patient, a brunette 41 years of age, had always been in good health excepting uterine disorders; married twenty-two years, never pregnant. Has had uterine fibroid tumors for eight years. Previous to 1873 had three attacks of pelvic cellulitis. The tumors were discovered in 1881, since which date she has taken ergot almost constantly, either in form of fl. extract or by suppositories, to control the menorrhagia. The fluid extract was given in doses of from 15 drops to a teaspoonful three times a day for eight years. The effect was very decided in controlling the hæmorrhage, the larger dose being used when the hæmorrhage was severe, and the smaller dose in the interval.

The tumors became smaller under its use and the patient's life was rendered more comfortable, but it produced a peculiar effect to which I wish to call attention, never having observed the same before. This was the same whether taken by the mouth or by suppository.

This effect was uniform and very marked, and I have not seen it referred to in the literature of this drug. It was characterized by a peculiar depression of spirits with hysterical phenomena, and was more marked when full doses of the fl. ext. were taken, less marked when using the suppositories of ergotin. After taking ergot for three days she feels like crying all the time; then, on the fourth day, is ill-tempered and displeased with everything and wants to quarrel; will lie in bed and cry all day. All this while her natural disposition is just the opposite—even-tempered and exceptionally pleasant.

The family soon came to recognize this state of mind and respect it accordingly. Husband and servants were careful not to aggravate it, and even the little adopted daughter would say, "Mamma has been taking ergot, don't notice her."

The effect here noticed occurred constantly following the ergot, and was undoubtedly produced by it.

PAINTING FLOORS.—A French writer observes that painting floors with any color containing white lead is injurious, as it renders the wood soft and less capable of wear. Other paints without lead, such as ochre, raw umber, or sienna, are not injurious.

REPORTS FROM HOSPITALS.

SURGICAL CLINICS AT THE WESTERN PENNSYLVANIA HOSPITAL BEFORE THE STUDENTS OF THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

BY PROFESSOR J. B. MURDOCH,

SURGEON TO THE WESTERN PENNSYLVANIA HOSPITAL AND PROFESSOR OF CLINICAL SURGERY IN THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.

[Reported by WILL. N. PRINGLE, M.D., a member of the Graduating Class.]

February 16, 1889.

AMPUTATION OF HIP-JOINT.

I have a patient to bring before you to-day who has come here seeking relief from a most grievous condition. He has traveled throughout this and other States in search of relief and hoping to be rid of his malady, but in each and every case to be turned away in despair by surgeon after surgeon telling him that there was no relief for him, and that his case was hopeless. Three years ago this man was a blacksmith and was kicked on the leg by a horse. Soon after a small lump appeared, which grew, at first slowly and hardly perceptibly, later it grew more rapidly, and within the past year it has grown with frightful rapidity, and is now so large as to keep his legs separated and to interfere considerably with his powers of locomotion. I consider this a more than ordinarily sad case. When great men like President Lincoln, President Garfield or Emperor Frederick, are stricken down and death seems inevitable, and the best surgeons of the country take up their post by their dying bed, all the world looks on aghast and cries out that men who will thus stand face to face with death are brave men—and so they are. But men like President Lincoln, President Garfield or Emperor Frederick have climbed the ladder of fame, they have attained the highest position in the gift of the people of their respective countries, they have shone in their greatest glory, they have accomplished their greatest good. Such men as these have generally passed the meridian of life, they are in the decline.

Here is a man not yet 30, comparatively a young man; strong, healthy, robust, recently married and the father of one child; prospects and opportunities for future good just looming up before him, when just in the prime of life he is suddenly stricken down by a disease, probably cancerous in its nature and as deadly in its characters as the assassin's bullet, if allowed to pursue its rapid onward progress. What will be required here it is impossible to tell; the operation is in a manner an exploratory operation—it may involve the removal of an immense tumor or it may involve an amputation at the hip-joint. The pa-

tient is reduced in strength and may not survive the operation long enough to be removed to his bed in the ward. It is with a sense of grave responsibility that I approach this operation. These are the cases that will test your skill, your knowledge and your courage. An operation is, however, the only chance that remains for the patient, and it is a duty which no surgeon should shirk. As I have said, he has consulted many physicians, and their opinions have been various. Some diagnosed abscess, others lymphoma, lipoma, sarcoma, and many other states and conditions. I am of the opinion that it is a sarcoma, or an osteosarcoma. Now sarcomata, as you know, are cancerous in their nature and prone to return, and a very good rule in surgery is that, where sarcoma attacks a bone, the whole bone should be removed.

A few years ago a lady suffering from an osteosarcoma which had attacked the femur just above the knee, applied to me for relief. I amputated the limb at the upper third of the thigh, thinking that at that point I would certainly be in sound tissue. The patient made a good recovery, but after six months the disease returned with all its virulency, and then I wished that I had removed the limb at the hip-joint. I would therefore advise you that, in all cases, where sarcoma attacks a bone, you remove the entire bone; always go to the joint next above the seat of disease. Sarcoma, as regards the form of its cells, is of three varieties, *i. e.*, the round-celled sarcoma, which is the most malignant in its nature; the spindle-celled sarcoma, which next approaches it in malignancy; and the giant-celled sarcoma, which is the least malignant. They are all, however, likely to return after removal, unless they are completely eradicated by a most thorough operation. Inasmuch as this has been diagnosed an abscess by some surgeons, and in the hope that they may be right, I will insert an aspirator needle well into it and see what we may be able to obtain. You remember that the history of this case was that at first it grew slowly but as it grew in age it increased in rapidity, and now has attained a size exceeding that of the foetal head. No fluid can be induced to flow through the aspirator, although the point of the needle is movable and feels as though it was in a cavity. I will therefore prepare to remove the tumor or amputate the limb at the hip-joint, as may be required. I elevate the limb to a right angle to the body and carefully endeavor, by stroking the skin from the toes toward the body, to drive the blood from the limb. I will apply an Esmarch's bandage the entire length of the limb, pass it around the perineum and carry it well up over the crest of the ilium. A roller bandage will serve as a compress to control hæmorrhage from the external iliac, while the other end of the rubber bandage will compress the branches of the internal iliac which have an exit from the pelvis at the great sciatic foramina.

An assistant will make steady traction on the ends of the rubber bandage. This method of controlling hæmorrhage was first introduced by Mr. Lloyd, of Birmingham, England, and has proved a very efficient method.

As I make an incision and pass my finger into the tumor I at once find a cavity with firm walls and filled with blood clots and a soft encephaloid or brain-like substance, which oozes through the wound. I find the limb is excavated or honey-combed almost throughout its entire thickness, the cavity extending across the bone into the outer side of the leg. It also extends upward, involving the capsular ligament and the joint. In view of the fact that the disease has gained such a foothold, and that the destruction of tissue has been so great, no operation can prove of any avail for this man except the amputation of his leg at the hip-joint. In this opinion I am sustained by my colleagues, Drs. McCann, Hamilton and King. Even this, I fear, will be but a respite or prolongation of the man's life, but as it is the physician's province to prolong life, we are justified in making the attempt, however desperate may be the chances. The limb being now removed is not sufficient; all of the diseased tissue remaining in the stump must be dissected out, or a speedy return of the disease would result. In deference to the general opinion we will not trust to torsion, in this case, to control the hæmorrhage, but strong catgut ligatures will be used. All of the hæmorrhage must be controlled before the wound is closed, for fear of hæmorrhage into the wound, causing wound tension. A rather large sized drainage-tube will be inserted and the wound will be closed by silver sutures. The usual antiseptic dressings will be applied and the patient will be at once removed to bed. Stimulants, such as brandy, whisky and ammonia, will be given to him, and he will be surrounded by bottles of hot water, in order to assist reaction. If he does well, which we hope that he will, the dressings will not be disturbed for several days, at which time the drainage-tube will be removed.¹

MEDICAL PROGRESS.

WEIL'S DISEASE.—W. BRODOWSKI and T. DUNIN (*Deutsche Archiv für klin. Med.*, Bd., 43, H. 4 u. 5) say that, although there have already been a number of cases of this affection described, its cause and nature are not well understood. The present case, therefore, deserves especial attention, since it is accompanied by the report of the autopsy. The patient, a strongly built and well

nourished man of 36 years, had been attacked about ten days before with severe headache, and had since suffered with repeated chills, with great pain in the abdomen, constipation, and some sweating. When examined, he exhibited some jaundice and swelling of the feet, a few râles in the lungs, especially on the left side, and a temperature of 100.4° F. and pulse of 96. The liver and spleen were decidedly enlarged, the lymphatic glands of the neck, axilla, elbow and groin were enlarged and tender, and the sternum and long bones also somewhat painful on pressure. The urine contained bile and a small amount of albumin, with numerous hyaline tube-casts. The blood contained a somewhat increased number of leucocytes, but was in other respects normal. After being under observation five days the patient died in collapse, having in the meantime suffered from increasing and very intense pain in the region of the liver, more marked cedema and jaundice, and a greater number of râles in the lungs.

The diagnosis had to be made from enteric fever, acute yellow atrophy, continued malarial fever, and leucæmia. The first was excluded by the absence of roseola and intestinal symptoms, and the presence of enlarged liver and lymphatic glands, and of tenderness of the liver. The second was excluded by the slight degree of icterus and the enlargement of the liver; and the third by the symptoms connected with the liver, kidneys, and lymphatic glands. At first the disease was thought possibly to be a case of subacute leucæmia, but this also was excluded by the state of the blood, and the presence of jaundice and albuminuria. The authors accordingly were of the belief that they had to do with a case of Weil's disease; and described it accordingly as *hepatitis parenchymatosa acuta, nephritis acuta, tumor lienalıs acutus, adenitis generalis acuta*.

The principal results of the post-mortem examination were as follows: The lungs were very hyperæmic and cedematous; and in the lower portions there were many thickened portions which felt like spleen, could be easily crushed, and, on section, were of a deep red color. The liver was enlarged and paler than normal. On its surface and section there were numerous irregular spots, the color of yellow clay, which followed the branches of the portal vein. The liver acini were well marked. The spleen was enlarged at least five-fold, dark red, and of almost fluid consistence. The kidneys were twice their natural size, the surface smooth, grey-red, and covered with small white spots. The cortex was twice the natural thickness, and similar white spots were visible. The medullary portion was redder than the cortical, and white spots were visible at the bases of the pyramids. The thoracic and abdominal glands were enlarged, soft, and reddish-grey. The microscopical changes are described in full;

¹ March 6.—This patient lived for three weeks and died suddenly from secondary hæmorrhage. A postmortem examination showed that the carcinoma had extended into the pelvis, and involved the common iliac artery.

the principal ones being as follows : In the thickened portions of the lungs there was an extravasation of blood in the vesicles, and foci of small-celled infiltration in the interstitial tissue, especially along the course of the larger veins. The yellow spots in the liver consisted of a similar cellular infiltration, which was much more abundant in the inter-acinous portion of the connective tissue than in the intra-acinous tissue. The liver cells were in some parts atrophic and compressed, in others swollen. They were cloudy, and many of them tinged with bile. In the kidneys the condition was quite similar; the spots alluded to consisting of cellular infiltration of the interstitial connective tissue, especially in the cortical portion. The epithelial cell were swollen and cloudy. In the spleen there was small hæmorrhagic extravasations, and the small celled infiltration was seen between bundles of connective tissue. The result of a bacteriological examination was practically negative.—*American Journal of the Medical Sciences*, June, 1889.

PULMONARY VENTILATION AND AMPLIFICATION OF THE THORAX UNDER THE INFLUENCE OF GASEOUS INJECTIONS.—BERGEON (*Lyon Méd.*, No. 13, 1889) has again brought forward his "method" under a different theory and for a different purpose. On the ground that carbonic dioxide inserted into the rectum is rapidly absorbed and eliminated by the lungs, and thus *increases the pulmonary ventilation*, he advises this treatment for pulmonary phthisis, reports several cases, and draws conclusions which may be summarized as follows :

1. Gaseous injections furnish a rapid means of increasing the perimeter of a thorax of insufficient size, and this increases the capacity of resistance to the catarrhal affections of the respiratory passages so frequent in those predisposed to pulmonary phthisis.

2. They aid in producing the disappearance of the tubercle bacilli by increasing the vital resistance and the pulmonary ventilation, and by modifying the nidus in a way antagonistic to the development of the microbes.

3. They exert a favorable action even in febrile phthisis; but in order that this action may be salutary and not harmful, it is necessary to comply strictly with the condition that the gas be obtained from a natural mineral water. If an artificial gas is to be associated with this, it is necessary that it be prepared in a condition of absolute purity.—*American Journal of the Medical Sciences*, June, 1889.

THE WALK OF ATAXIC PATIENTS.—DEMANY and QUÉNU have studied the walk of ataxic patients by means of the exact process of photography, and by means of the impressions of the foot upon the soil through a registering dynamometer.

The process is an application of the methods inaugurated by M. Marey for the physiological station. The walk of ataxic patients differs from the normal in characteristic points which photography of the conspicuous parts of the body demonstrates. The bending of the head, the shoulder, the hips, the knee and the ankle obtained photographically, by means of incandescent lamps attached to the joints of patients, are abnormal in a perceptible degree.

The bending of the hip presents an abnormal sinuosity, whilst the foot is lifted. The knee is strongly lifted a little before it is posed, then it is roughly let down simultaneously with the foot, describing at the ankle a sort of circle the last element of which has a retrograde direction. The prints of the registering dynamometer are especially characteristic; instead of presenting two maxima divided by a minimum, they consist of a winding curve ascending gradually into an undulating plateau. In a second type, corresponding to a heavy step of the foot upon the ground, the impression ascends rapidly, but does not remain at its height. The incoördination of the movements of the lower limbs manifests itself chiefly during the period of lifting, in the moment of rest. The leg and thigh extend quickly and simultaneously, thus producing the heavy fall of the heel on the ground.—*La Semaine Médicale*, No. 18, 1889.

TREATMENT OF EMPYEMA BY A VALVULAR TUBE HERMETICALLY SEALED TO THE CHEST.—DR. WM. WILLIAMS, physician to the Royal Southern Hospital, Liverpool, describes in the *British Medical Journal*, of May 18, the principle and mechanism involved in this plan of dealing with empyema. He says :

The principle of the treatment by my valvular tube is the taking away of the atmospheric pressure from the external surface of the lung while the opening in the chest-wall still remains, and so enabling the organ to fulfil its functions and to fill up its side of the chest from the first, without waiting for any falling in of the side to take place; in other words, to cause the lung to expand at the commencement instead of at the end of the treatment.

The method of carrying out this principle is the following : A rubber tube a yard and a half in length, and of a thickness that will admit of its being introduced through a cannula of the ordinary size used to open empyemas, is taken, and one end is introduced into the chest by this means; over the tube, starting from the free end, is next run up an oval, slightly-curved—concave towards the chest—metal plate or shield, three inches by two inches, having a metal tube half an inch long soldered in a hole in its centre, and projecting on the convex side only; through this the drainage tube passes as the shield is run up

to the chest, and they should, of course, fit each other air-tight. Now, between the plate and the chest stiff ointment on dressing, or a layer of soft rubber sheeting, or what not, is placed so as to form an air-tight joint, when the whole is finally firmly strapped down and bandaged. Turning again to the free end of the drainage-tube. We fix on to it by means of a piece of glass tubing a valve that opens outwards, and the contrivance is complete. The valve end of the tube when in use is placed in a bottle containing some antiseptic solution, as the valve acts best in a liquid, and the bottle forms a convenient and cleanly method of dealing with the discharge of pus. Lastly, once or twice each day the valve is removed and the chest washed out by simply elevating and lowering the bottle and changing its contents. It is essential that this should be done often at first, to thin the pus, which is then frequently very thick, presenting while in that state greater difficulties to its expulsion through the valve than when more fluid, and no obstacle should on any account be allowed to cause a postponement of the application of the valve for a single day.

By means of this mechanism the side of the chest acted upon is converted into the cylinder of a pump, of which the diaphragm forms the piston, having two exit openings, trachea and rubber tube, but only one inlet opening, trachea alone; therefore, each time the diaphragm ascends, the contents of the lung and also that of the pleural cavity are expelled; but each time the diaphragm descends only air into the lung can enter the chest; so each quantity of pus that is driven out through the tube during expiration is replaced at the next inspiration by so much re-expanded lung. By a repetition of this action the pleural cavity is ultimately pumped dry, and so the lung is made to reoccupy it; the action is, in fact, that of a continuous aspirator, and that it actually does take place is, I think, without doubt.

ON THE EFFECT OF CORONILLIN UPON THE HEART.—Coronillin acts electively upon the heart. In doses of 0.005 gr. it acts much like digitalis upon the heart of frogs. In mammiferous animals (dogs) the heart's action is first accelerated, afterwards much slackened. But this phase of slackening is completely suppressed by previous section of the two pneumogastries, or the medulla, or by atropinization. In these conditions only an increase of the intra-arterial pressure is observed consecutive upon every injection of 0.0005, or 0.001 gr., after which always a marked and persistent diminution follows. The animal dies from stoppage of the heart. But at the last period of intoxication the cardiac contractions become unable to maintain the intra-arterial pressure, so that this sinks down to nothing before the heart is

completely stopped. M. Gley, who made these experiments, together with M. Schlagdenhauffen, of Nancy, found also that the nerves of the heart presented different grades of irritability under the influence of coronillin.—*La Semaine Médicale*, No. 17, 1889.

THE TREATMENT OF DIARRHŒA IN PHTHISIS.—DR. POLYÁK, of Görbersdorf, gives in the *Orvosi Hetilap*, the results of some trials he has made of two recently suggested remedies in the diarrhœa of phthisis—viz., silicate of magnesia in the form of talc, which has been recommended by Debove, and lactic acid recommended by Drs. Sézary and Aune. About 8 ounces of talc were well shaken up in a pint of milk, and this, or even a larger quantity was given daily. As a rule it arrested the diarrhœa after having been used for a couple of days, but if it was left off the diarrhœa returned. It was found, however, that patients liked the milk mixed with talc even better than ordinary milk, but it could not be taken for more than six or seven days, as after that time complaint was made of a troublesome feeling of oppression in the stomach and bowels. Dr. Polyák thinks it quite impossible that long-continued use of talc can heal intestinal ulcers. Lactic acid proved in his hands a much more satisfactory remedy. The initial dose employed was 30 grains per diem in four ounces of water; this was increased subsequently, but not more than 75 grains per diem were given. On the third day the diarrhœa and pain were generally arrested, and during the next day or two the stools assumed their ordinary character. It was found advisable to continue to give small doses for some time longer. The patients bore the treatment well; it produced no diminution of appetite, and unless continued for a long time, gave rise to no disagreeable symptoms. Dr. Polyák thinks it possible that even ulcers of the intestines may be healed by this means.—*Lancet*, May 18, 1889.

CONGENITAL ABSENCE OF FIBULÆ.—MR. WM. THOMAS, at the March meeting of the Midland Medical Society, exhibited a child at 4, in whom there was congenital absence of both fibulæ and corresponding parts of feet—viz., the outer two metatarsal bones and phalanges. The feet were in a condition of rigid talipes valgus. He intended to divide the tendo Achillis, and by a specially constructed apparatus to supply the function of the absent fibula.—*Lancet*, May 4, 1889.

FROMENTINE.—DR. DUJARDIN-BEAUMETZ has brought to the notice of the Paris Academy of Medicine a new alimentary substance which he names "fromentine." It contains three times more nitrogenous substance than meal, and a large proportion of sugar. It is obtained from wheat.

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SATURDAY, JUNE 29, 1889.

THE TWELFTH VOLUME COMPLETED.

With this issue the twelfth volume of THE JOURNAL will be completed. For thirty-four years the "Transactions of the American Medical Association" had been compiled and published annually in as many single volumes. The delay incident to the preparation of such a work rendered it necessary often to defer its publication, until nearly the close of the current year. To obviate this delay, as far as possible, it was determined after careful consideration, to issue the proceedings of the Association, with its papers and discussions, in the form of a weekly journal, to which should be added such other original matter, together with notes of Medical Progress, Editorials, Foreign and Domestic Correspondence, Proceedings of Medical Societies, Reviews of Books, Editorial Notes and Medical Miscellanies, such as should make it in every respect a first-class medical magazine. Each member of the American Medical Association is entitled to THE JOURNAL by reason of the payment of his annual dues, without further cost. Thus, there was an assured subscription list as large as the membership of the Association. The advertising public was quick to perceive the value of THE JOURNAL as a medium of communication with a very large number of the most prominent physicians in the country, and the revenue from this source, in addition to the membership fees, has enabled the Trustees to present to its readers a weekly journal, each issue, as now enlarged, containing thirty-six pages of double column, solid reading matter.

Two volumes are published annually. The first commencing with the first day of July, the second with the first day of January. At the close of the sixth year THE JOURNAL now completes its twelfth volume, and enters upon a new year entirely free from debt, with every prospect of abundant success.

Ample provision is made for editorial work, a good list of both Foreign and Domestic correspondents has been secured. It has always at hand an abundant supply of original matter, and commands for publication the proceedings of as many of the leading medical societies of the country as its space will permit.

It is the purpose of the Trustees to make it, in every respect, thoroughly representative, as a National Journal. In no sense will it be partisan or sectional. It invites to its columns the discussion of the living issues of the day, which have for their object the promotion of medical science and the advancement of the healing art. It therefore commends itself strongly to the patronage of medical men who are not members of the Association as a journal replete with original research, and with the expression of the latest thought of many of the best minds in our country.

As an advertising medium it is unnecessary to speak. Experience in the past indicates that its value is fully appreciated.

The number of papers presented, and their authorship, give promise that the Annual Meeting held at Newport during the past week has afforded material for the thirteenth volume, which will render it more valuable, than any which have preceded. *It is a good time to subscribe for THE JOURNAL.*

THE PREVENTION OF PUERPERAL FEVER.

Since the "germ theory" came to be so largely accepted by the profession as an established fact, the study of the septic condition known as "puerperal fever" has been greatly simplified, and its prevention has been made more than possible. Fortunately, this disease has been growing more and more rare during the last quarter of a century, and especially since the principles of Listerism have become firmly established in the minds of the profession. So-called epidemics of the disease have been rare, if indeed not entirely wanting, throughout the entire Mississippi Valley, and

where any number of cases have occurred in close proximity of time and locality, a common medium of infection has been easily made apparent by careful inquiry and investigation. Atmospheric conditions are no longer considered to be important factors in the production of puerperal fever, further than that they at times conspire to lower the standard of vital activity in the economy of the subject, and so prepare a suitable soil for the reception of any infective plant that may be introduced from whatever source. The puerperal woman is frequently the subject of various febrile conditions accompanied by chills and other alarming symptoms, not in any way due to septic influences in the true sense of that term, and which promptly yield to the appropriate therapy, and which are not to be confounded with the phenomena known as puerperal fever proper.

Puerperal fever or puerperal septicaemia, however, does occur, and occurs too often, as it is a settled fact, in large measure, that this is a preventable disease; that the immediate environments of the lying-in woman are the sources from which her dangers arise, and that directly in proportion as these dangers are met and removed, is her immunity from the disease assured.

The large amount of decaying tissue, the denuded condition of the entire intra-uterine surface, and the gaping mouths of its sinuses, incident to the puerperal state, all conspire to make this an inviting field for the planting and culture of infective germs. When once introduced into this extremely fertile soil and well established throughout the field, the progress of the disease is readily understood. The two processes by which the work of involution is accomplished, that is, sloughing and absorption, must occur in close proximity. The two flowing streams must originate at distances from each other unappreciable, and it is not difficult to understand how the infective germ finds its way into the general circulatory system. This seems plainly to be the story of the disease. The route by which the disease-producing germ may have reached the cavity of the uterus, is doubtless by way of the vaginal tract, and hence is suggestive of preventive measures to be employed. There seems at present to be no doubt entertained as to the practicability of preventing this formidable disease, which a few years ago left so many homes wifeless and motherless. The means to be employed are simple enough, but ex-

acting in every detail. Absolute and uncompromising antisepsis is the only safeguard of the lying-in woman, and the accoucheur of to-day, with present information on the subject at hand, is derelict of duty who leaves any one of the many details of antisepsis unobserved, and it may safely be predicted that, in the near future, he will not have been sustained by the profession who may have inadvertently neglected the recognized precautions to the injury of his patient.

EDITORIAL NOTES.

HOME.

THE JOHNSTOWN SUFFERERS.—The *Maryland Medical Journal* has opened a subscription list for the relief of those physicians and their families who are sufferers from the flood. Up to the 15th inst. \$181.00 had been received.

WE regret to learn of the continued illness of Dr. Oscar J. Coskery, of Baltimore, who has been removed to St. Joseph Hospital.

DR. GEORGE H. MAKUEN, of the Staff of Cooper Hospital, Camden, N. J., has been appointed assistant demonstrator of anatomy in the Jefferson Medical College.

THE AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE held a convention in New York from June 4 to 7. Delegates were present from England, Canada, Russia, Italy, and from nearly every State in the Union. A full report of the proceedings will be found in *The Medical-Legal Journal* for July.

PROF. DAVID SWING, of Chicago, has been elected a trustee of the Northwestern University.

A NEW HOSPITAL.—A public hospital will shortly be erected at Memphis, Tenn., under the auspices of St. Mary's Catholic Church. It will be entirely non-sectarian, and nursing and attendance will be gratuitous to all patients unable to pay.

A TEST FOR ANTIPYRIN.—The *Pharmaceutical Journal* gives the following test for antipyrin: Place in a test-tube a few grains of potassium nitrate, add a little water and then excess of strong sulphuric acid, and fill up the tube with the suspected liquid. A green coloration is immediately produced if antipyrin be present. This test is delicate and reliable and has the ad-

vantage of being specifically characteristic of antipyrin.

PROF. R. BARTHOLOW recommends bromide of lithium to be about the best remedy for muscular rheumatism.

THE people of New Orleans are determined to do away with the system of surface drainage so long in use. They are agitating for underground drainage.

THE Senate of Massachusetts threw out the proposed medical bill on a vote of five to eighteen after it had passed the lower House.

THE BROOKLYN EYE AND EAR HOSPITAL is the recipient of \$5,000 under the will of the late Hon. S. B. Chittenden.

A HOSPITAL FOR DARTMOUTH.—The *New York Times* says, that Mr. Hiram Hitchcock, of the Fifth Avenue Hotel, has given to Dartmouth College a hospital which is to be attached to the medical school of that institution.

THE NEW EDITOR OF THE "MEDICAL NEWS." The proprietors of the *Medical News*, of Philadelphia, have secured the services of Dr. Hobart A. Hare, as editor. Dr. Hare, in conjunction with Dr. Edward Martin, has been awarded the Warner Prize of \$500, offered by the Massachusetts General Hospital, for the best essay on the treatment of persons apparently dead from failure of respiration.

THE NEWPORT MEETING.—The President's Address and a full report of the general sessions will appear in our next issue, which will be mailed early in the coming week. There were about three hundred papers read in the various Sections, which will be published in THE JOURNAL. Now is the time to subscribe, or to become a member by application.

DR. F. H. REHWINKLE, of Chillicothe, O., died on the 7th inst. from the effects of a stroke of paralysis. An extended notice will appear under the head of "Necrology."

DR. S. EDWIN SOLLY, of Colorado Springs, Colo., paid us a visit on his way to the meetings of the American Climatological and American Medical Associations. After the meeting at Newport Dr. Solly will sail for Europe.

FOREIGN.

DANGERS OF FOREIGN TRAVEL.—We learn

through the *British Medical Journal*, that Sir Edward Watkin is energetically calling attention to the lamentable sanitary defects in one of the great hotels at Cannes, to which he has attributed the recent illness of several members of his family. A thorough inspection of foreign hotels is advocated. It is a fact that on both Continents the same cause of complaint exists at health resorts. The sanitary laws should be enforced, and if necessary, special legislation obtained to make the greed of hotel proprietors subservient to the public welfare.

A BRAVE SURGEON.—Mr. C. D'Alton, surgeon of the "Cotopaxi" of the Pacific steamship line, distinguished himself recently by his courageous conduct in rescuing two passengers. The vessel struck a rock in the Straits of Magellan and foundered. During the eight minutes of awful suspense Mr. D'Alton noticed that two passengers were paralyzed and unable to help themselves, and acting with promptness and presence of mind he rescued them, even procuring bedding from his own cabin for the use of the worst of the two cases.

LEPROSY IN ENGLAND.—The Royal College of Physicians are urging the British Government to renew the investigation of the question of the contagion of leprosy. The disease is believed to be contagious and not hereditary.

PAINLESS EXTRACTION OF TEETH.—Drs. Henoque and Fredel, in a communication made to the Biological Society of Paris, state that the extraction of a tooth may be rendered painless by spraying the neighborhood of the external ear with ether. The anesthesia of the trigeminal so produced extends to the dental nerves, and thus renders the production of general anesthesia needless.

DR. JOHN GUITERAS, of the U. S. Marine-Hospital Service, is authority for the statement that the City of Havana has had an annual epidemic of yellow fever for over one hundred years. July, August and September are the fatal months.

DR. JOHN FREIND.—The current number of *The Asclepiad* contains a well-executed portrait of the celebrated medical historian, John Freind. Accompanying it is an interesting sketch of his life as student, practitioner, politician and historian.

SOCIETY PROCEEDINGS.

Medical Society of the District of Columbia.

Stated Meeting, February 6, 1889.

DR. C. H. A. KLEINSCHMIDT IN THE CHAIR.

DR. J. TABER JOHNSON presented a specimen and history of

SUPRA-VAGINAL HYSTERECTOMY FOR A LARGE UTERINE FIBROID.

I first saw this patient with Dr. Sellhausen. She had a large fibroid tumor of the uterus which she had carried about for fifteen years, but was now confined to her room on account of constant hæmorrhages. She was a spinster, æt. 53; a German who could speak no English, and earned her living as a dressmaker at the rate of 75 cents a day. Upon vaginal examination a polypus was discovered protruding from the external os about the size and length of one's thumb. It was thought, that as hæmorrhages had not in the past been a feature of her case, that this polypus might be the cause of her loss of blood, and its removal was proposed and agreed to at once. Miss H. engaged a private room in Providence Hospital for this purpose. She being an aged virgin it became necessary to administer ether in order to insert a speculum. The removal of this growth did no good. The bleeding continued, and, as the patient was unable to continue her work, and being without means to obtain a living she requested that the tumor itself be removed, if possible. After consultation with her friends and physician it was determined to make the effort, as the poor woman had no other prospect in life than the charity ward of a hospital or the poor-house.

Supra-vaginal hysterectomy was therefore performed. The broad ligaments were tied off on each side, and Keith's clamp applied at the head of the internal os, and the tumor cut away. The pedicle was treated as recommended by Keith and Bantock—a drainage tube put in and the wound closed up to and around the stump which was sewed to the peritoneum. There was no shock and the patient did very well for the next twenty-four hours. She was cheerful and bright, and had very little pain. She passed a normal quantity of urine. The second night after the operation, her temperature jumped up without warning to 104°, and then as rapidly fell, and she went into a collapse from which she could not be aroused. Her temperature the next morning was 95°, and she died at noon on the third day. There was no hæmorrhage and only a very slight peritonitis about the edges of the wound. She seemed to die of what is called secondary shock, or perhaps from the shock of a commencing peritonitis.

She may have been too weak to stand the operation, but Keith, in his little work on "Thirty-eight Cases of Supra-vaginal Hysterectomy," states that some of his most anæmic cases did the best, and strong hopes were entertained of the recovery of this patient. Soft friable patches were found on the inside of the uterus which were probably the seat and cause of her hæmorrhages, and which perhaps might have been removed with temporary benefit with the curette. Hæmorrhages are frequently arrested when this condition is present both with the curette and with cauterizing action of the electrical current. The size and friability of these masses gave rise to the suspicion of malignancy, and I requested Dr. Lamb to examine and report on this point. Perhaps the sudden collapse of the patient was, in a measure, due to the undermining of her constitution by the cancerous process added to her loss of blood.

DR. SWAN M. BURNETT presented a specimen and history of

SARCOMA OF THE CHOROID.

I saw the patient from whom this eye was removed for the first time just two months prior to the enucleation. At that time he was practically blind in that eye (the left), and had been for some time—as to how long he was very uncertain. He was of the opinion, however, that the sight had been failing for some years. There was a total detachment of the retina; tension about normal; probably some perception of light at the lower inner quadrant of the visual field; pupil reacted only concentrically. As the other eye was emmetropic, and there was no history of trauma, and the patient was near 60 years old, my suspicions as to an intra-ocular growth was almost a conviction. I advised care in the use of the eyes, and ordered him to report from time to time, and at once upon the appearance of redness or pain, and assuring him, without telling him of my suspicions, that it was the kind of an eye that someday would almost surely require surgical interference. Two weeks ago he reported with some pericorneal injection, and a complaint of severe orbital pain setting in suddenly. There was plus tension; the cornea was hazy with the epithelium raised in places; pupil not dilated. Under cocaine, hot applications and rest, the more acute symptoms subsided. I warned him that on a second outbreak of severe pain operative interference would be necessary at once. I went to New York, hearing from him every day, and finally at the end of the second week since first seeing him I was telegraphed for. I found the usual feature of severe cyclitis, bordering on to panophthalmitis—7+2. Enucleation, under ether, was done at once, the operation being perfectly smooth.

On section of the enucleated eye the following appearances were found:—total detachment of

the retina, a tumor on the inner wall reaching from the optic nerve entrance to beyond the equator, and filling about one-third of the cavity of the globe. The sclera was not ruptured, and the cut surface of the optic nerve seemed, on microscopical inspection, to be healthy.

The tumor shows minute dots of pigmentation, and I am quite sure it will exhibit under the microscope the characters of a *melanotic sarcoma of the choroid*. Intra-ocular tumors are of two varieties—sarcoma of the choroid, rarely or never met with in persons under 12 years of age, and glioma of the retina, never found in those over that age. The important lesson to be learned from this case is, that when there is a detachment of the retina in a person over 50 not affected with myopia, and with no history of trauma, to suspect an intra-ocular tumor, and if the vision is lost, to advise an enucleation at once.

DR. T. C. SMITH asked Dr. Burnett what would be the probability of systemic infection in his case, and also the proportion of cases subsequently infected.

DR. BURNETT: In sarcoma of the choroid where the optic nerve is not involved there is little danger of its involving the orbit, or causing systemic infection. If a microscopic examination showed that the optic nerve was diseased in this case then he would fear a return of the disease in the orbit. In glioma there is generally systemic infection.

DR. BERMANN: Did Dr. Burnett obtain a family history of such tumors?

DR. BURNETT: He had learned that the patient had had two epitheliomatous warts of the cheek and lip, which had been removed by the late Dr. A. Y. P. Garnett, and they had not returned. This was the only history bearing upon malignant growths in this family.

DR. GEORGE WOODRUFF JOHNSON reported the following:

1. SUPERNUMERARY BREAST. 2. FIBROID OF THE VULVA. 3. SARCOMA OF THE FEMALE URETHRA. 4. MELANOTIC SARCOMA OF THE CERVIX UTERI. 5. FIBROUS TUMOR OF THE CERVIX UTERI.

DR. THOMPSON: Dr. G. W. Johnston has spoken of the rarity of pediculated fibroids, but was it not much rarer to find sarcomata pediculated?

DR. G. W. JOHNSTON thought his specimen was a sarcomatous degeneration of a fibroid polypus. As was well known sarcoma could occur in the uterus either as a diffuse degeneration of its lining membrane, or as the so-called fibro sarcoma. In the latter variety the tumor is sometimes intramural, sometimes subperitoneal or submucous, and either of the last two forms may become pediculated.

DR. THOMPSON had never seen a pediculated sarcomatous tumor. Dr. Burnett's case has not been definitely settled. If he should operate upon a tumor which he knew to be sarcomatous in the region of Burnett's he would have the gravest apprehensions as to its return. Sarcomata are often locally as malignant as carcinomata. He had recently operated for sarcoma of the testicle, removing everything to the abdominal ring, but the growth returned and killed the patient. He had operated on others and the sarcomata returned. The tendency of sarcoma is to return; it is different with fibromata.

He had sometime ago removed a well-defined tumor from below the angle of the scapula; the wound healed by first intention; it soon returned; he operated again, cutting the muscle from the ribs; and the wound healed again. In five or six months the tumor had grown to be as large as one's head. He told him to go to the hospital, but he declined. Sometime after that he saw him sitting in front of his house and stopped to inquire about the tumor. He learned that he had been under another's treatment and said he was well. The patient described the tumor as breaking down like clots. He examined him and he was well. Three months after he again examined him, and to his surprise he found him well both locally and constitutionally. He thought this one of the most remarkable cases he had ever seen. In carcinoma such a cure would have been impossible. Sarcomata remain locally malignant for a long time.

He gave the details of another case of enlarged scrotum into which hæmorrhage had taken place, and it had swelled to an enormous size while the man was sitting quietly at his desk. He operated and removed large clots and broken-down tissues which gave it the appearance of malignancy; he removed the entire scrotum of the side upon which the tumor was situated. He had had a number of successful operations upon sarcomatous testicles.

DR. LAMB: There was probably a profuse hæmorrhage in the first case, forming clots which subsequently broke down.

DR. THOMPSON thought it was a solid tumor which had ulcerated. He had removed a cystic tumor from the outer side of the arm of a young man, which looked very black at different points. He thought he took out all of the diseased tissue, but it returned in about six weeks, was very much harder and did not fluctuate. He operated a second time and cured the patient. Some sarcomata do not return when once thoroughly removed.

DR. BERMANN was interested in the case reported as polypoid sarcoma of the urethra. He was dubious of the right of calling it a sarcoma. He has frequently removed polypi from the nose and found that when they had existed for a long

time that they resembled sarcomata. If this is true why should we call polypi of the urethra malignant.

DR. LAMB: In the large tumor on the side and ribs, mentioned by Dr. Thompson, the blood supply was probably cut off, fatty degeneration took place, and the tumor disappeared independent of medicinal treatment.

DR. J. TABER JOHNSON asked Dr. G. W. Johnston how long it had been since he removed the sarcomatous growths and if any had returned. Dr. Johnston had assisted him in removing a sarcoma situated between the vagina and rectum. A microscopical examination proved it to be a melanotic sarcoma of the worst type. As yet there have not been any symptoms of reappearance, but he was not certain that time enough had elapsed to see whether it would return.

DR. G. W. JOHNSTON had seen the urethral case one and a half months after its removal. The wall and tissues were hard and tough, and the urethra had regained but little of its elasticity. His treatment after the removal of the growth was for the purpose of making the wall of the urethra contract. The microscopic diagnosis had been made some time after the removal of the tumor and since then he had not seen this patient. He would not stand sponsor for the diagnosis in these two cases. He did not even suspect malignancy until after he had received the report of Dr. Gray.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

New York County Medical Association; Dr. T. H. Manley on the Operation for Strangulated Hernia known as the McBurney Method—Appointment of a Committee to confer with the New York Board of Health with a view to securing a more perfect Registration of Births.

At the May meeting of the New York County Medical Association Dr. T. H. Manley read a paper on the *Operation for Strangulated Hernia* by the method which Dr. McBurney recently described before the Academy of Medicine, and in it gave a report of three interesting cases recently operated on by himself at the Harlem Hospital. They were all of indirect inguinal hernia, and the operation was performed with a view not only to relieving the constriction, but also at the same time permanently curing the trouble. In devising this procedure, which enabled the surgeon to secure both these ends by means comparatively simple and infinitely safer than any others yet proposed, he thought there could be no doubt that Dr. McBurney had achieved one of the greatest triumphs of American surgery.

The cardinal points of this operation, which he said were for the most part decidedly original and which, if well understood and skilfully applied, would almost invariably lead to successful results, are, it will be remembered: 1, an open wound—hence no septic infection or purulent infiltration; 2, the incision of the sac; 3, the suturing of the cutaneous and aponeurotic edges of the wound together; and 4, the closing in of the breach by means of cicatricial tissue. The difference in the character of the three cases of Dr. Manley rendered necessary some modifications in their management; but in all there were followed out these fundamental points laid down by Dr. McBurney, whose operation was recommended for every variety of abdominal protrusion.

The first case was that of a male 45 years of age whose hernia, on the left side, had existed as long as he could remember. From time to time the protrusion would disappear spontaneously, though he always wore a truss, and up to the day before he entered the hospital the patient had not noticed it for more than four months. On this day, after unusual straining at stool, the tumor reappeared, larger than ever and unusually tender to the touch. The man himself and his family physician both having failed in reducing it, he was sent to the hospital. At this time there were no signs of strangulation and, as his condition was very good, he refused to submit to an operation, which was strongly urged. Four days after the reappearance of the hernia well-marked symptoms of strangulation showed themselves.

The patient was now eager for the operation and, an anæsthetic having been given, the skin was quickly incised by one stroke of the scalpel carried from a point just over the intestinal opening of the inguinal canal to an inch below the external ring, and then the coverings were divided until the sac was reached; the region of the neck being first sought and the body cut down on later. The sac was found to be an old one and bound down by very firm adhesions, which were separated only with the greatest difficulty. Within the sac was a knuckle of intestine, with a large quantity of effused serum. In performing this operation it is inculcated to leave the spermatic cord alone; but in this case there was no spermatic cord, either within or without the sac. When the canal was opened the cause of all the trouble was found, viz.: an undescended testicle, which was normal in shape, but not much larger than a kidney bean. By making considerable traction it could be readily brought out of the canal, and Dr. Manley considered the fact that the inguinal opening was patent throughout attributable to the defective development; the testicle sometimes slipping down through the ring, and then returning again. This condition had naturally kept the patient in a constant state of danger, and the displaced testicle was also the

cause of the discomfort which he said he had habitually experienced when wearing a truss. After completely opening the canal and removing the testicle, traction was made, and the whole of the protruding portion of the serous sac ligated and cut off. The cutaneous edges were drawn down to the divided edges of the canal, and six sutures put in on each side: after which the open wound was packed with iodoform gauze and the usual antiseptic dressings applied. After the operation the patient never rallied, and death ensued four hours after its completion. This man's life, Dr. Manley said, should have been saved, but it was lost through his refusal to submit to an early operation; the delay resulting in septic infection of the peritoneum and general exhaustion of the system.

The second case was in a male, 29 years of age, who had worn a truss for many years, but discarded it about a year before, when his rupture disappeared. It suddenly returned one day while he was making severe exertion, and several physicians having failed to reduce it, he came to the hospital. As in the preceding case, an immediate operation was advised, but the patient refused, and the tumor, which was very small, remained unreduced in spite of all treatment. The next day there was a marked change for the worse, and locally there was found marked fulness along the cord in the inguinal canal, while the scrotum was distended with an enormous hydrocele and the hernia itself had increased to more than five times its original size. In addition, there was well-marked peritonitis in the region of the sac, with a tendency to rapidly become general, and altogether, septic infection was evidently in full progress.

Under such circumstances the success of any cutting procedure was very doubtful, but an operation was now, of course, the only resort. The great advantage of the McBurney method in cases like this, Dr. Manley said, was that we had a large open wound for free drainage, and an opportunity to remove as occasion required any diseased or contaminated tissue met with. In this case the hernia had no sac. As in the preceding instance, there was an old congenital impediment (though here the testis had descended), and the spermatic cord dangled in the centre of a large pouch. Hence, to carry out the operation according to the method adopted it was necessary either to sacrifice the testicle or make an artificial investment for it. As the latter would render the patient liable to another hernia at an early date; and, moreover, as it was found that the *vas deferens* was reduced to a mere thread and the testis was very imperfectly developed, and therefore probably useless functionally, the organ was removed. In order to secure a continuous sac the unclosed tunica vaginalis had to be dissected off all the way up to its origin at the internal ring. The protrusion

consisted of a small knuckle of intestine with a large mass of discolored and partly gangrenous omentum. The latter was drawn forward until healthy tissue was reached, when it was ligated and cut off; after which the sac was cut off and the wound treated in the usual way. Though Dr. McBurney laid stress upon the importance of keeping the patient in bed for six weeks after the operation, this one (whom Dr. Manley exhibited to the Association), could not be persuaded to keep quiet so long, and left the hospital, perfectly well, on the twenty-ninth day.

The third case was that of a woman 51 years of age. The hernia had existed for fifteen years, and ten days before her admission to the hospital she found that it was impossible to replace it as usual. She also became obstinately constipated, and numerous enemata had no effect in relieving the bowels. On the night of the tenth day symptoms of strangulation set in, and her physician, who had previously exhausted every means to reduce the hernia, advised her to enter the hospital. She was admitted at midnight, and Dr. Manley saw her one hour afterwards, when her condition was exceedingly serious, notwithstanding the fact that, from the moment of her entrance, stimulants had been freely administered and artificial heat assiduously applied.

The operation was commenced as promptly as possible and, on account of the extreme exhaustion of the patient, special effort was made to render it as brief as consistent with thoroughness. When the peritoneum was reached it was found that it had formed a pouch which was firmly adherent to the surrounding parts and, from the thickness and toughness of its walls, undoubtedly an old one. The sac, close to the inner side of which lay the round ligament, was divided in a longitudinal direction, when it was found that the greater part of its contents consisted of omentum which, towards the neck, was very firmly adherent to its serous covering. Immediately under the protruding part was discovered a small knuckle of intestine, of a port wine color, with its peritoneal investment, which had a peculiar granular feel. After the sac had been torn from all its connections with adjacent parts it was opened in the lower portion, which permitted the drawing down of the omentum to a slight extent. This having been done, it was ligated in mass, and the stump returned to the peritoneal cavity. In this case, as in the others, the inguinal canal was opened throughout its whole length.

The last steps of the operation, the sewing together of the skin and aponeurotic structures, and the packing of the wound, presented unusual difficulties in this instance, on account of the extreme amount of adipose tissue in the abdominal walls; but by somewhat modifying the *technique* of the operation these were overcome. Though the patient was quite weak for a few days, all her

dangerous symptoms disappeared with the operation; she made a rapid and satisfactory recovery.

Until the time of the McBurney method, which offered additional advantages that no other possessed, Dr. Manley went on to say, the operation for strangulated hernia was attended with a fearful mortality; Bryant putting it at 50 per cent. in the hands of the best operators. By a strange coincidence there were admitted to the Harlem Hospital during the first week in July, 1888, three women suffering from strangulated hernia. The first was a healthy, muscular individual, 29 years of age, and the second was 50 and, though of a spare figure, also in good general health; while the third was 65 years old and greatly emaciated and reduced in strength. The most persistent efforts at reduction by taxis failed, and all were operated on within twenty-four hours after the latter were abandoned. The operation was simple, as the only aim was to release the constriction and return the protrusion; but two of the patients died within forty-eight hours after the operation, and the one who recovered, strange to say, was the feeble old woman of 65.

Dr. Manley said that though there might be a diversity of opinion as to the propriety of doing any operation in the case of an individual with a hernia that could be comfortably borne with the aid of an easy truss, or in the case of very young children, he could hardly conceive of any objection when strangulation was present against a procedure which, while it obviated the greatest dangers of this condition, afforded, in addition, a reasonable prospect of a permanent cure and the freeing of the patient from the unceasing burden of a truss. There were two great sources of danger encountered in every case of strangulated hernia operated on which the McBurney method always eliminated, viz.: peritonitis from septic infection, and hæmorrhage. As far as immediate danger to life was concerned, all other dangers, bleeding included, sink into insignificance in comparison with the former of these.

If there was localized contamination a free opening could be made, and the cavity of the peritoneum boldly entered. If any of the extruded parts were undergoing putrefactive changes it was removed. If there was reason to suspect that the serum of the peritoneum had become infected an opening might be made by the exposure of the ring, or perhaps the crural arch, and if this were not free enough it could readily be enlarged by an incision into the fibrous tissues, and the whole region flushed with some efficient antiseptic wash; while, to be more certain that no pent-up decomposing material remained, a drainage tube could be introduced. To the objection that the free use of the scalpel in dividing the strong bands of aponeurotic structure would tend to weaken the abdominal walls, it could be answered that we would resort to this only in a very severe

case where general contamination was feared. Besides, immediately after the parts were well washed out the line of incision would be solidly sutured.

As to hæmorrhage, this method marked a new era in dealing with inguinal bleeding. It put an end to the blind groping with a stub or blunt-pointed blade for a part which should be recognized by the touch only. Under the old plan of procedure the one great thing which the surgeon feared in dividing the constriction was hæmorrhage; and hence very great stress was laid on the importance of keeping well in mind the bearings of the blood-vessels, for, unfortunately for the patient, if a deep vessel happened to be cut it would scarcely be known until after he was dead. In addition, there was such an exaggerated dread of disturbing the peritoneum that it would be only a very bold operator who would cut down for the divided ends of the wounded vessel. But, with a free open wound, with its edges well separated by retractors and every part well exposed to view, the chances of hæmorrhage were reduced to the minimum, and if it happened that a vessel pursuing an anomalous course came in the way of the scalpel, it would occasion no alarm whatever, since the point of injury would be in full view and the bleeding could readily be controlled by the clamp forceps. The importance of avoiding hæmorrhage was still more appreciated when it was remembered that hæmorrhage, independent of the amount of blood lost, may become a source of danger by exciting inflammation and possibly spreading infection. It was well known that the presence of even a very small quantity of blood would often interfere with primary union of the wound, and in this operation the tissues were not permanently brought into apposition until every vestige of bleeding had ceased.

Having dwelt for some time on the anatomical arrangement of the structures in the inguinal region in his three cases, Dr. Manley went on to say that from his clinical experience and from a most careful and extended series of investigations on the dead body, in the male and female, adult and child, he was firmly convinced that abdominal hernia in its various forms, and especially the indirect inguinal variety, is nearly always attributable to defective development at birth, or to causes acting immediately after it. He referred particularly to his observations upon infants and said he was persuaded, furthermore, that arrest of the descent of the testicle is responsible for the vast majority of hernias in the male.

In the treatment of strangulated hernia by the McBurney method, he continued, among the questions which arose for consideration were the following:

1. How soon should an operation be performed after the hernial protrusion is found to resist taxis?

2. What are the circumstances which call for a modification of the *technique* of the operation?

3. What are the dangers, immediate and remote, in the operation, and how can they be obviated?

4. What class of cases should be rejected?

The first question was more important than all the others, and upon its decision the success of the operation would in a large measure depend. Dr. Manley recommended that whenever a case of hernia which cannot readily be reduced is met with an immediate operation should be advised, provided the facilities for it and for carrying out the most rigid antiseptic treatment of the wound are at hand. Under such circumstances the patient is not worn out with agonizing pain and exhausting vomiting, but is in good condition and almost certain to make a rapid and permanent recovery. What could be promised now (and this constituted one of the principal indications for an early operation), was something which had been hitherto unknown, viz., a complete cure of the hernia. If the patient was in a vigorous condition, but afraid of general anesthetics, a few cocaine injections would suffice to blunt the pain occasioned by the cutting. As the longer the delay the greater was the danger and the smaller the prospect of success, promptness in operating was of the greatest possible importance.

In answer to the second question he stated that the wound made through the skin, fascia and fat must be dealt with somewhat differently in fat and lean subjects, and also with reference to the kind of hernia present and the condition of the tissues, whether healthy or not. In thin individuals little difficulty would be met with in suturing the skin to the conjoined tendon and to the fascia transversalis in oblique inguinal hernia; but in the very fat he believed it was sometimes better to omit this part of the procedure. In his opinion a case would do equally well if, after packing the wound with gauze, the edges were brought towards each other by broad strips of strong adhesive plaster. Of course, if in any case infection were suspected at the site of incision, the wound would have to be made somewhat larger, so as to provide for free irrigation and drainage. A hernia other than the indirect oblique would not require so free an incision. In making the incision the operator should be guided by a single purpose, viz.: to make it large enough to enable him to deal with the deeper structures safely and speedily. In patients suffering from great exhaustion he believed the surgeon should proceed with all possible haste compatible with thoroughness, and he said he could not doubt that prolonged anesthesia was responsible for the loss of many lives. If, on exposing the bowel, there were found positive evidences of gangrene, the result of too long delay, enterectomy was called for; after which the remaining healthy por-

tion of the gut should be returned, and the operation completed in the same manner as if this pathological change had not been encountered.

In a hernia not of congenital origin, Dr. Manley went on to say, the management of the sac was a simple matter; but when its external surface was found to be firmly attached by old and strong bands of connective tissue, it was necessary to carefully and completely detach these before we could be quite certain that we had reached the free floating covering of peritoneal tissue which must be shut off by a ligature, applied high up, before the division of the sac. With recent protrusions accompanied by inflammatory exudations of lymph it was very easy to separate the adhesions; but in irreducible and incarcerated hernias, and those of congenital rarity, the most cautious and tedious dissection was often required, in order not to injure the parts. To an operator familiar with the anatomy of the region and with the tissues met with such adhesions were, however, objectionable only because they prolonged the operation. In every instance where on cutting down upon a hernia it was found to be one dependent on defective development or misplacement of the testes, and likely to occur again in consequence of this impediment, he thought the surgeon should not hesitate to castrate. If the testicle had been an active factor in the production of the hernia it was in his experience pretty sure to be feeble in function; but even if this were not the case the man would still possess full virile power with the other one remaining. With this impediment removed, and the spermatic cord out of the way, we could solidly seal the whole chasm in the abdominal wall, and thus obviate the risk of leaving what might later possibly lead to a repetition of the same trouble.

In the inguinal region there were considerable anatomical and histological differences between the male and the female. In woman the skin was thin, and if they had given birth to many children it was apt to be greatly wrinkled, atrophied, and destitute of strength or elasticity. In those past middle life, too, there was often a large deposit of fat, which, while it did not interfere materially with completing the toilet of the wound, did most decidedly retard the healing process. In such cases it was imperative that the union of the wound should begin at the base, and thus gradually gather in and draw the cuticle towards the center as it proceeded outwards.

Iodoform, dry or rubbed into the meshes of cheese-cloth or gauze, should be used sparingly with the first dressing, unless for special reasons septic infection was feared. This precaution should be taken with the primary dressings until the patient's tolerance of the drug could be well ascertained, since otherwise its toxic effects upon the system might be serious. If, however, it was found not to excite undue irritation or produce

other unpleasant results, its use would no doubt tend to keep the wound sweet and shorten the healing process. In ordinary cases, where there was little tension, the catgut ligature was perhaps the most useful; but where there was any resistance, or where it was desirable to retain the parts in apposition for a considerable length of time, silk or strong linen was preferable. For ligating the sac or omentum strong silk only should be used, because it was the most reliable, and if first rendered thoroughly antiseptic, it could be safely buried in the tissues without giving rise to irritation or ulceration.

It was seldom indeed that hæmorrhage would occasion any difficulty in this operation; but in any case where the ordinary resources failed to control the bleeding, or where the two parts of a large divided wound retracted, the temporary transfixion ligature would be found invaluable. Having applied this, one could go on with the operation, leisurely seeking out and securing the bleeding points; when the temporary stitch might be removed.

The only immediate dangers in the operation, other than those which had been considered, were shock and exhaustion. Having given some attention to these subjects, he stated that he would decline to operate only on those who were bordering on the moribund state, especially those in profound shock or deeply narcotized and the very old. In conclusion, Dr. Manley said that while there could be no doubt that the McBurney operation was generally successful, and that it was the easiest of performance, the safest from septic infection, and the least liable to be followed by relapse, of all others, the consummation of this admirable procedure, marking as it did a new era in herniotomy, would not have been possible without the light shed upon abdominal surgery by Marion Sims, and without the discoveries of Pasteur and Lister in bacteriology and antiseptics.

In the discussion which followed the paper Dr. George Huntington, who has assisted Dr. McBurney in a number of his operations at the Roosevelt Hospital, said that as to the approximation of the integument and the deeper structures—the conjoined tendon and the transversalis fascia—it was for the purpose of more readily accomplishing this that Dr. McBurney advocated the passage of lateral tension sutures; and it was found that by the careful adjustment of these tension sutures very satisfactory results were obtained. He said he should be somewhat afraid of leaving so large a wound without any sutures, as suggested by Dr. Manley, in the case of certain very fat subjects, for the reason that, on account of its large size, there would seem to be a probability of the cicatrix resulting being rather weak.

Before the Association adjourned Dr. J. G. Truax made a motion, which was afterwards car-

ried unanimously, that a committee should be appointed by the Chair for the purpose of conferring with the New York Board of Health with a view to securing a more perfect registration of births, than is now made. In the case of the deaths, he said, the registration was complete, because no body could be interred or removed from the city without a written permit from the Health Department; but it was notorious that the registration of births was at present very incomplete.

In seconding the motion, Dr. Alfred L. Carroll said that to judge from the New York vital statistics, as published every week, one would suppose, from the preponderance of the deaths over the births reported, that the population of the city was rapidly diminishing. The simple explanation of this was, that a very considerable proportion of the births were never reported at all; and this was due principally to the fact that nearly 40 per cent. of confinements were not attended by registered physicians or midwives. Some time ago, when he was Secretary of the New York State Board of Health, he had carefully investigated the registration of vital statistics in the principal countries of Europe, and he found that in Great Britain and Germany, where the records of births were very complete, the onus of reporting all births was placed upon the parents, or, in the event of the death of the latter, upon the guardians. Through his efforts the law had now been so amended as to make this the case also throughout the State of New York; but this did not apply to the large cities, like New York, which were governed by their own sanitary codes. At present, therefore, the vital statistics of this city were absolutely worthless.

P. B. P.

MISCELLANY.

THE 75,000 EDITION.—The *Maryland Medical Journal* says: THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION deserves great credit for the enormous extra edition of 75,000, containing among other things a full programme of the next annual meeting at Newport, with a short guide to that beautiful resort, as well as an announcement of all the medical schools of the United States.

THE EXAMINING BOARD of the Marine-Hospital Service, at their last session examined twenty-seven candidates. The following gentlemen passed: Drs. Groenevald, of Louisiana, Young and Brown, of Virginia, and Stenson, of Maryland.

PHYSICIAN WANTED.—We have received a letter from Mr. T. L. Martin, of Pleasant View, Ind., asking to be placed in communication with a good physician seeking a country location. Any of our readers desirous of making a change should communicate with him.

CORRIGENDA.

IN THE JOURNAL of June 5, page 795, appears an article on "Temperament," by Dr. S. Edwin Solly; for "Helling," read *Helling*. In the issue of January 10, 1889, p. 84, for "W. W. Skinner, M.D., of Peoria, Ill.," read W. W. Skinner, M.D., of New York.

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